COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

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GAIL FARBER, Director

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November 20, 2012

ADOPTED
BOARD OF SUPERVISORS
COUNTY OF LOS ANGELES
31 November 20, 2012
SACHI A. HAMAI
EXECUTIVE OFFICER

The Honorable Board of Supervisors
County of Los Angeles
383 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, California 90012

Dear Supervisors:

LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 40, ANTELOPE VALLEY ADOPT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION/ENVIRONMENTAL ASSESSMENT AND MITIGATION MONITORING AND REPORTING PROGRAM AND AUTHORIZATION TO PROCEED - NORTH LOS ANGELES/KERN COUNTY REGIONAL RECYCLED WATER PROJECT, PHASE 2
(SUPERVISORIAL DISTRICT 5)
(3 VOTES)

SUBJECT

This action is to adopt the Initial Study/Mitigated Negative Declaration/Environmental Assessment and authorize the Department of Public Works to proceed with preconstruction activities for Phase 2 of the North Los Angeles/Kern County Regional Recycled Water Project in the Antelope Valley.

IT IS RECOMMENDED THAT THE BOARD ACTING AS THE GOVERNING BODY OF THE LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 40, ANTELOPE VALLEY:

1. Consider the Initial Study/Mitigated Negative Declaration/Environmental Assessment for Phase 2 of the North Los Angeles/Kern County Regional Recycled Water Project together with any comments received during the public review period; find that the Initial Study/Mitigated Negative Declaration/Environmental Assessment reflects the independent judgment and analysis of the Board; adopt the Mitigation Monitoring and Reporting Program, finding that the Mitigation Monitoring and Reporting Program is adequately designed to ensure compliance with the mitigation measures during implementation of Phase 2 of the North Los Angeles/Kern County Regional Recycled Water Project; find on the basis of the whole record before the Board that that there is no substantial evidence that the project will have a significant effect on the environment, and adopt the Initial Study/Mitigated Negative Declaration/Environmental Assessment.

2. Approve Phase 2 of the North Los Angeles/Kern County Regional Recycled Water Project and authorize the Department of Public Works to proceed with preconstruction for Phase 2, including approval of design plans, right-of-way acquisition, and obtaining all necessary permits.

PURPOSE/JUSTIFICATION OF RECOMMENDED ACTION

Approval of the recommended actions will adopt the enclosed Initial Study/Mitigated Negative Declaration/Environmental Assessment (IS/MND/EA) and allow the Department of Public Works (Public Works) to perform all necessary activities to proceed with construction of Phase 2 of the North Los Angeles/Kern County Regional Recycled Water Project. Phase 2 of the project will include 46,500 feet of pipeline, a 3-million-gallon storage tank, and a pump station.

Phase 2 of the project represents a critical portion of the backbone recycled water system that would serve the City of Palmdale and surrounding unincorporated communities in the Antelope Valley and eventually connect with a section of pipeline being constructed in the City of Lancaster. The project would provide a reliable local source of tertiary recycled water for irrigation and other nonpotable uses at commercial, industrial, and recreational facilities.

Implementation of Strategic Plan Goals

The Countywide Strategic Plan directs the provisions of Operational Effectiveness (Goal 1) and Integrated Services Delivery (Goal 3). The utilization of tertiary recycled water for nonpotable purposes is an effective use of a local water supply source that will help improve water supply and reliability for customers of the Los Angeles County Waterworks District No. 40, Antelope Valley (District).

FISCAL IMPACT/FINANCING

There will be no impact to the County General Fund.

The cost to construct Phase 2 of the project is estimated at $21,500,000. The District has budgeted $5,500,000 for design and construction of these facilities. Funding for the District's portion is available in the Fiscal Year 2012-13 Accumulated Capital Outlay Fund (N64). The remaining funds needed to construct Phase 2 will be provided by the City of Palmdale. A funding agreement between the City of Palmdale and the District was approved by the City on March 2, 2010, and the Board on March 8, 2010.

FACTS AND PROVISIONS/LEGAL REQUIREMENTS

On May 1, 2007, the Board adopted a recommendation to execute a consultant services agreement with Environmental Science Associates, Inc., to provide services for the project in compliance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) at a not-to-exceed fee of $402,000.

On December 9, 2008, the Board certified a Program Environmental Impact Report (PEIR) for the project. The PEIR provides project-level assessments for certain components of the project, such as construction and operation of pipelines and municipal and industrial end uses of recycled water. Storage tanks and pump stations are evaluated at a program level, along with other recycled water end uses, such as power plant cooling water. All project components that are evaluated at a

program level in the PEIR require additional environmental assessment prior to their implementation in order to be in compliance with CEQA.

On March 30, 2010, the Board awarded a consultant service agreement to Camp Dresser and McKee, Inc. (CDM) for design and construction support services for Phase 2 of the project for a not-to-exceed fee of $2,000,000, including $349,200 for unforeseen additional work. CDM's design serves as the basis for the scope of the IS/MND/EA and is nearly complete. Upon adoption, CDM's design will be used to prepare the construction bid package in order to advertise, award, and adopt the construction contract for Phase 2.

ENVIRONMENTAL DOCUMENTATION

The District, as lead agency for CEQA, is proposing to implement Phase 2 of the project. The District is preparing this IS/MND/EA to comply with CEQA Guidelines and to determine if Phase 2 of the project would result in new effects or require new mitigation measures in addition to those included in the PEIR. Feasible mitigation measures from the PEIR that are applicable to Phase 2 of the project are incorporated into this IS/MND/EA in accordance with CEQA Guidelines Section 15168(c)(3).

The District has been awarded an Appropriations Grant from the United States Environmental Protection Agency (USEPA) for Phase 2 of the project. Therefore, in addition to CEQA compliance, Phase 2 of the project must also comply with NEPA before construction can be initiated. To facilitate the use of this document by both the District and the USEPA, a combined format has been developed to include all topical information and analyses required by the CEQA Guidelines, as well as the USEPA Environmental Review Guide for Special Appropriations Grants.

Under CEQA Section 15096, the Board is required to consider the IS/MND/EA and the environmental effects shown in the IS/MND/EA in accordance with CEQA Guidelines. The USEPA, as lead agency for NEPA, has sole authority and responsibility to determine whether the IS/MND/EA complies with NEPA guidelines.

On December 9, 2008, the Board, acting on behalf of the District, certified a PEIR for the project, State Clearinghouse No. 2007101125. This IS/MND/EA is for Phase 2 of the project and tiers from the adopted PEIR in accordance with California Code of Regulations, Title 14, Division 6, Chapter 3, Article 10, Section 15152 of the CEQA Statues and Guidelines.

An initial study was prepared for Phase 2 of the project in compliance with CEQA. The initial study identified potentially significant effects of the project in the area of aesthetics, air quality, biological resources, cultural resources, geology, soils and seismicity, hazards and hazardous materials, hydrology and water quality, land use and land use planning, noise, transportation and traffic, utilities and services systems, and mandatory findings of significance. Prior to the release of the proposed IS/MND/EA for public review, revisions in the project were made or agreed to, which would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and such measures will be implemented pursuant to the mitigation monitoring and reporting plan. The initial study and project revisions showed that there is no substantial evidence, in light of the whole record before the District, that Phase 2 of the project as revised may have a significant effect on the environment. Based on the initial study, an MND was prepared for the project.

A Public Notice was published in the Antelope Valley Press on May 16, 2012, and the IS/MND/EA made available for public review for a period of 30 days pursuant to Public Resources Code Section

21092.3. The Lancaster Regional Library and the Palmdale City Library were furnished with a copy of the draft IS/MND/EA for public review, and electronic copies of the Notice of Availability and IS/MND/EA were published on the Districts' website. No comments were received from members of the public. Comments were received from the following public agencies: Antelope Valley Air Quality Management District, the City of Palmdale, the County Sanitation Districts of Los Angeles County, the Lahontan Regional Water Quality Control Board, the California Department of Fish and Game, the Native American Heritage Commission, and the United States Fish and Wildlife Service. Responses to the comments were sent to those agencies pursuant to Section 21092.5 included in Chapter 5 of the IS/MND/EA.

The location of the documents and other materials constituting the record of the proceedings, upon which the Board's decision is based in this matter, is at Public Works, Waterworks Division, 1000 South Fremont Avenue, Building A9-East, 4th Floor, Alhambra, California 91803. The custodian of such documents and materials is Mr. Jonathan King, Associate Civil Engineer, of Public Works.

Upon the Board's adoption of the IS/MND/EA, Public Works will file a Notice of Determination in accordance with Section 21152(a) of the California Public Resources Code and pay the required filing and processing fees with the Registrar-Recorder/ County Clerk.

CONTRACTING PROCESS

The District will return to the Board for authority to award the Phase 2 construction contract.

IMPACT ON CURRENT SERVICES (OR PROJECTS)

There will be no negative impact on current County services or projects during the performance of the recommended action. The project will provide a reliable local water supply to offset the use of potable water on nonpotable applications.

CONCLUSION

Please return one adopted copy of this letter to the Department of Public Works, Waterworks Division.

Respectfully submitted,

GAIL FARBER

Director

GF:AA:dvt

Enclosure

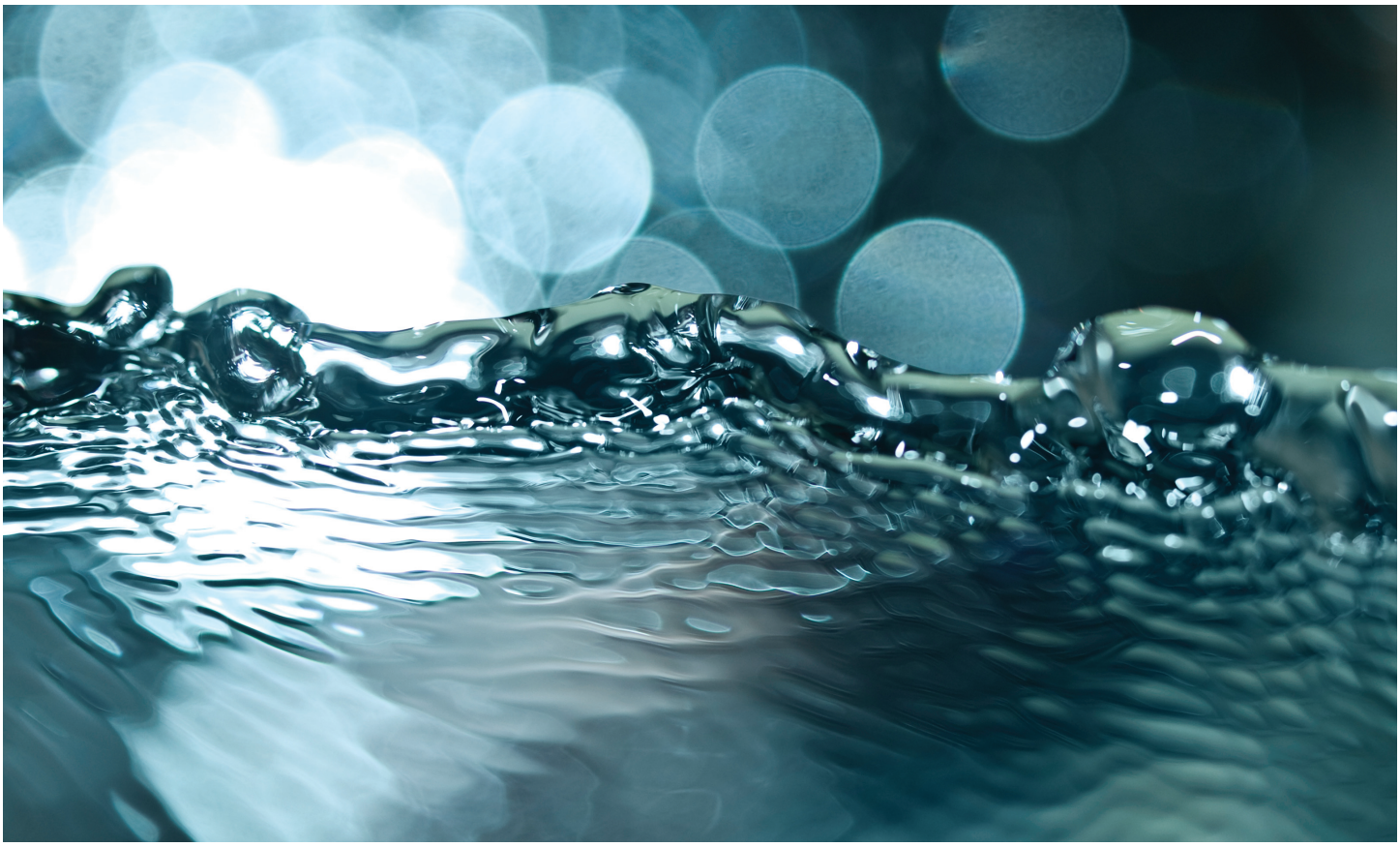
c: Chief Executive Office (Rita Robinson)
County Counsel
Executive Office

LACWWD40 REGIONAL RECYCLED WATER PROJECT PHASE 2

Final IS/MND/EA

Prepared for
Los Angeles County
Waterworks District No. 40

November 2012



LACWWD40 REGIONAL RECYCLED WATER PROJECT PHASE 2

Final IS/MND/EA

Prepared for
Los Angeles County
Waterworks District No. 40

November 2012

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CHAPTER 1
Purpose and Need

1.1 Introduction

Los Angeles County Waterworks District No. 40, Antelope Valley (LACWWD40) is proposing to implement Phase 2 of the North Los Angeles/Kern County Regional Recycled Water Project ("Phase 2" or "proposed project"). Phase 2 would include construction of the following components: recycled water conveyance pipelines, a pump station, and a recycled water storage tank. The Phase 2 components would be part of a backbone system that would allow for the distribution of recycled water throughout the Antelope Valley. The Phase 2 components would be operated as part of the greater Regional Recycled Water Project, which would be owned and operated cooperatively by regional partner agencies, including LACWWD40, the City of Lancaster, the City of Palmdale, Rosamond Community Services District (RCSD), Palmdale Water District (PWD), Antelope Valley-East Kern Water Agency (AVEK), and Quartz Hill Water District (QHWD).

1.2 Background

LACWWD40 and several of the partner agencies provide potable water to the Antelope Valley, supplied primarily by local groundwater and water imported through the State Water Project (SWP). The California Department of Water Resources (DWR) owns and operates the SWP, conveying water from the Sacramento-San Joaquin River Delta to Southern California via the California Aqueduct. The East Branch of the California Aqueduct traverses the southern edge of the Antelope Valley from the Tehachapi Mountains to Silverwood Reservoir in San Bernardino County. Recent court rulings limiting pumping from the Delta have reduced reliability of the system.

There are three wastewater treatment facilities that serve the major urbanized portions of the Antelope Valley. They are the Palmdale Water Reclamation Plant (PWRP), Lancaster Water Reclamation Plant (LWRP), and Rosamond Wastewater Treatment Plant (RWWTP). The LWRP and PWRP are owned and operated by Los Angeles County Sanitation District (LACSD) No. 14 and LACSD No.20, respectively. The RWWTP is owned and operated by RCSD. These facilities are in the process of being upgraded to provide 100 percent disinfected tertiary-treated effluent that is suitable for all approved recycled water end uses under Title 22 of the California Code of Regulations (CCR). Currently, there is no regional recycled water distribution system to convey this treated water to locations where it can be beneficially used.

1.3 CEQA/NEPA Compliance

The environmental impacts associated with the implementation of Phase 2 were evaluated in a Final Program Environmental Impact Report (PEIR) that was prepared by LACWWD40 as the Lead Agency, and adopted and certified in November 2008 (ESA, 2008). The Final PEIR provided project-level assessments of some components of the Regional Recycled Water Project, including construction and operation of pipelines and municipal and industrial (M&I) end uses of recycled water. Storage tanks and pump stations were evaluated at a program level, as were other recycled water end uses, such as power plant cooling water. All project components that were evaluated at a program level require additional environmental assessment prior to their implementation in order to be in compliance with the California Environmental Quality Act (CEQA, California Public Resources Code Section 21000 et seq., as amended).

LACWWD40 is proposing to implement Phase 2 and therefore preparing this Initial Study/Mitigated Negative Declaration/Environmental Assessment (IS/MND/EA) to demonstrate compliance with CEQA and to determine if the Phase 2 components would result in new effects or require new mitigation measures in addition to those included in the Final PEIR, (CEQA Guidelines Section 15168(c)). If there are no new effects or mitigation measures, then no new environmental documentation would be required (CEQA Guidelines Section 15168(c)). The Final PEIR is incorporated by reference into this IS/MND/EA (CEQA Guidelines Section 15168(d) (2). Feasible mitigation measures from the Final PEIR that are applicable to the Phase 2 project are incorporated into this IS/MND/EA (CEQA Guidelines Section 15168(c) (3)).

The LACWWD40 has been awarded an Appropriations Grant from the U.S. Environmental Protection Agency (USEPA) for Phase 2 of the Regional Recycled Water Project; therefore, in addition to CEQA compliance, Phase 2 of the project must also comply with the National Environmental Policy Act (NEPA) before construction can be initiated. As such, this IS/MND/EA is being prepared jointly by LADWWD40 (CEQA Lead Agency) and the USEPA (NEPA Lead Agency) in accordance with NEPA (42 USC Section 4321 et seq), the Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 CFR, Sections 1500-1508), and the USEPA Environmental Review Guide for Special Appropriation Grants (2008, USEPA Publication No. 315-K-08-001).

To facilitate the use of this document by both LACWWD40 and USEPA, a combined format has been developed to include all topical information and analyses required by the USEPA Environmental Review Guide for Special Appropriation Grants as well as the CEQA Guidelines (California Code of Regulations (CCR), Title 14 Sections 15000 et seq. (2009). This IS/MND/EA evaluates all environmental issues required by USEPA within the 17 specific environmental resource areas included in the CEQA Initial Study Checklist (CEQA Guidelines, Appendix G, March 2010). The IS/MND/EA determines whether the proposed project would have any potentially significant environmental effects using both CEQA and NEPA criteria and determines whether mitigation is required to reduce potentially significant effects to less-than-significant levels.

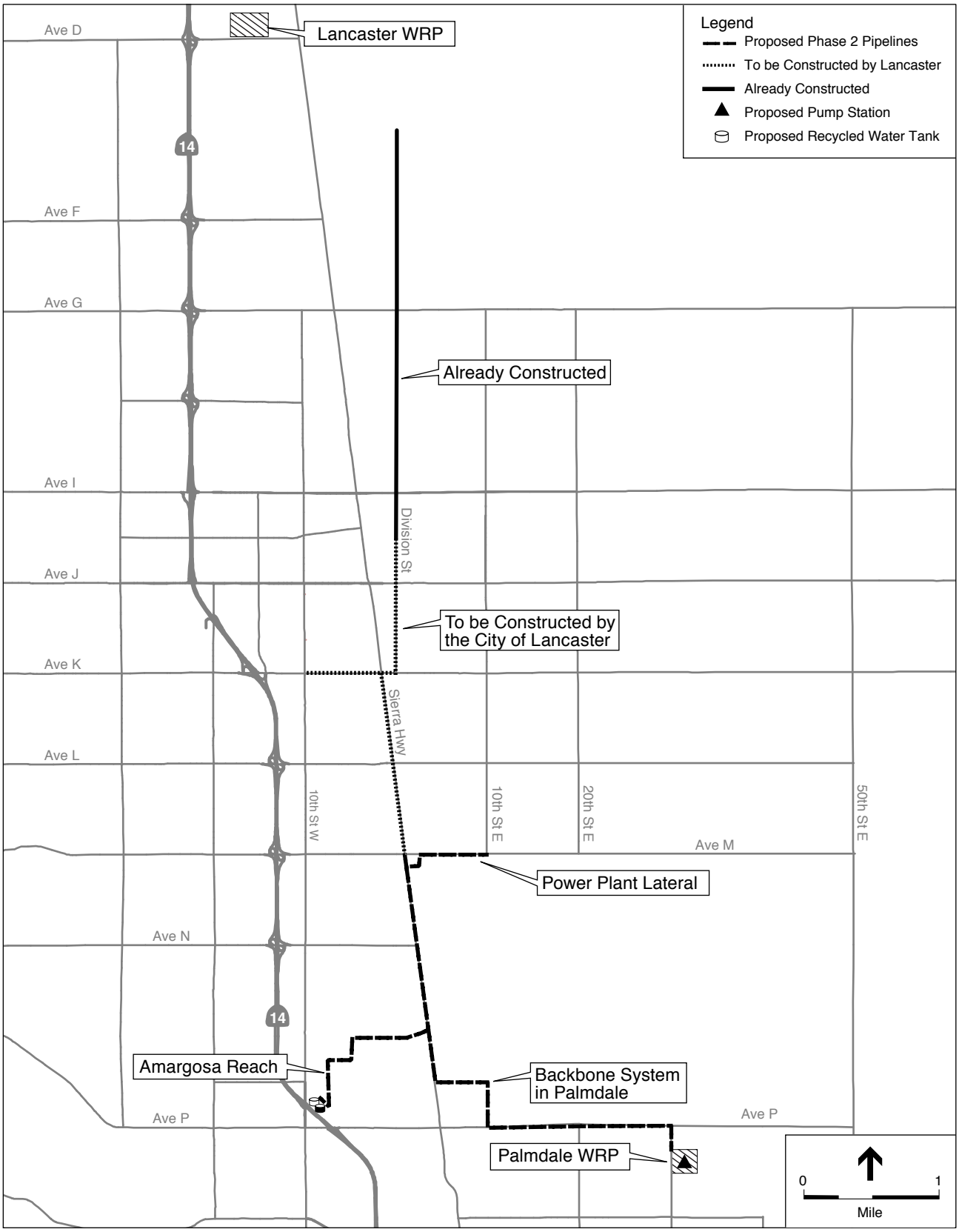
1.4 Project Location

The proposed project would be located in the Antelope Valley, which encompasses approximately 2,400 square miles in northern Los Angeles County, southern Kern County, and western San Bernardino County (**Figure 1**). The physical improvements associated with implementation of Phase 2 would be located within the City of Palmdale (City). The project is comprised of three components; 1) a pump station located at the PWRP, 39300 30th Street East; 2) a steel storage tank adjacent to northbound State Route 14 (Antelope Valley Freeway), between 10th Street West and Amargosa Creek on a parcel owned by LACWWD40; and 3) the recycled water conveyance pipelines. The pipelines would be constructed primarily within the public right-of-way (ROW) of City and County streets. The pipeline alignment would make two crossings of the Metrolink/Union Pacific Railroad as it runs parallel to Sierra Highway and would cross the Amargosa Creek just northeast of the new storage tank. The PWRP is owned by LACSD No. 20 (see Figure 1). LACWWD40 would acquire an easement from LACSD No. 20 for encroachment on their site prior to implementing the pump station.

1.5 Purpose and Need for Project

The Phase 2 facilities represent a critical portion of the backbone distribution system for the Regional Recycled Water Project. Phase 2 would develop a portion of the necessary infrastructure for distribution of recycled water as an alternative supply for non-potable uses and to meet the anticipated future water demands associated with the expected population growth in the Antelope Valley. The recycled water would be used for irrigation and other non-potable uses at municipal, commercial, and industrial facilities.

As described in the Final PEIR, the 2007 Antelope Valley *Integrated Regional Water Management Plan* (IRWMP) identifies an existing and projected water supply shortfall for the area (IRWMP, 2007). The existing shortfall is expected to be offset by groundwater extraction, imported water, and recycled water. The proposed project would help to reduce the future regional demands for imported water and would augment local water supplies.



SOURCE: ESA, 2011.

Regional Recycled Water Project Phase 2

Figure 1
Regional Map

1.6 Project Objectives

The objectives of Phase 2 are the same as the Regional Recycled Water Project (Final PEIR, page 2-2):

- Provide recycled water conveyance backbone infrastructure sufficient to accommodate planned regional recycled water demands;
- Integrate regional recycled water production, distribution, and re-use capabilities in the Antelope Valley;
- Provide conveyance, storage, and pumping capacity sufficient to accommodate peak future demands;
- Reduce the region's dependency on imported water;
- Augment local water supplies;
- Promote the State's policies for beneficial reuse of recycled water to replace potable water where possible.

References

Antelope Valley Integrated Regional Water Management Plan (IRWMP), 2007

Environmental Science Associates (ESA), Final Program Environmental Impact Report for North Los Angeles/Kern County Regional Recycled Water Project. Prepared for Los Angeles County Waterworks district 40, Antelope Valley. November, 2008.

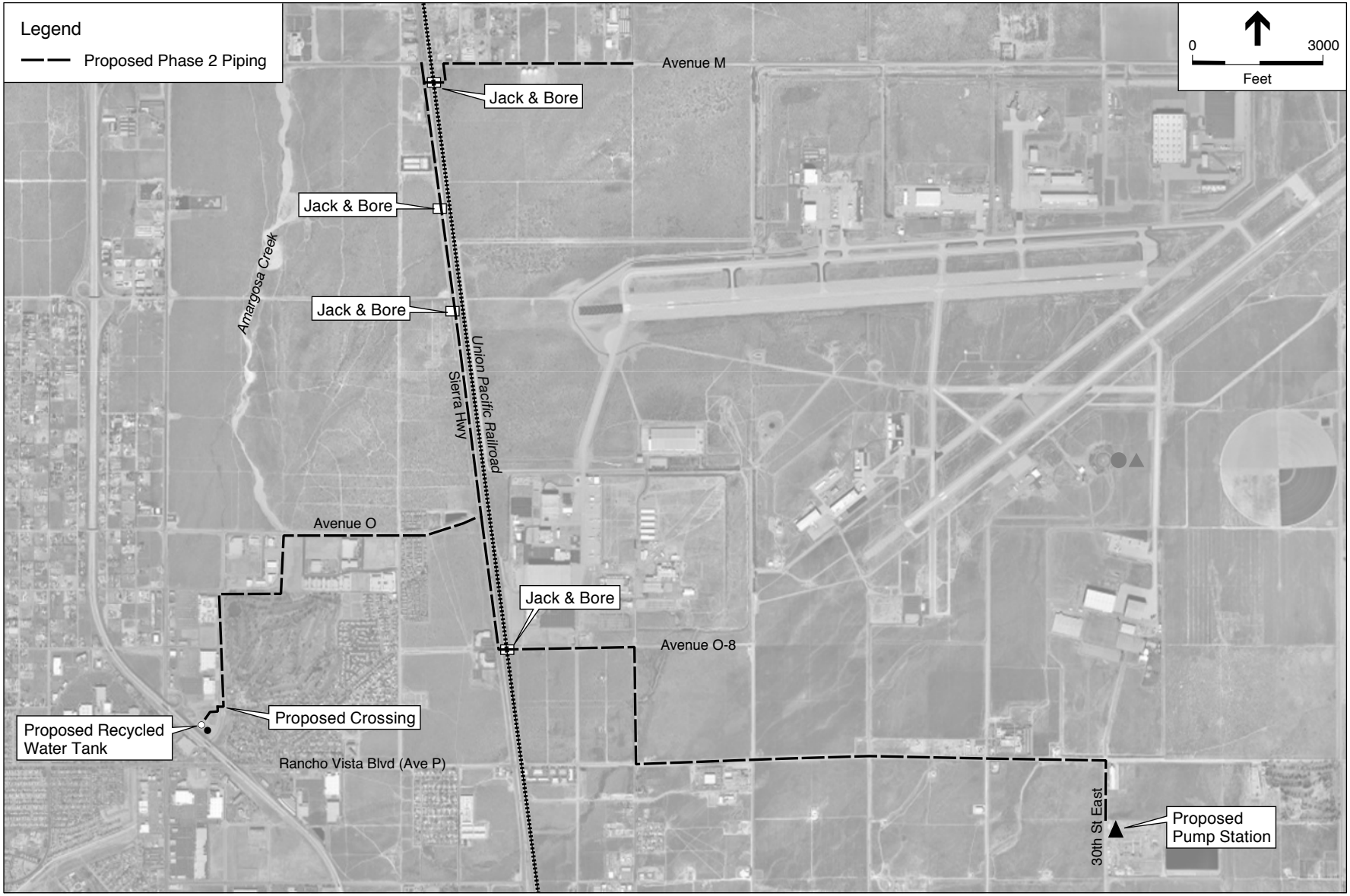
Los Angeles County Waterworks District No. 40, Draft North Los Angeles/Kern County Regional Recycled Water Project Phase 2, Design Strategy Report, September 27, 2010

USEPA Publication No. 315-K-08-001, 2008

CHAPTER 2
Proposed Action and Alternatives

2.1 Description of Proposed Action

The Phase 2 components are identified in **Figure 2** and are described in detail below. The Phase 2 components include the recycled water conveyance pipelines, a pump station, and one recycled water storage tank. In general, adjacent land uses are undeveloped parcels that contain desert vegetation typical of the western Mojave Desert, which includes creosote and desert shrubs. The proposed pipeline would be constructed primarily within roadway ROWs and would pass through undeveloped desert, residential and commercial areas, alongside a golf course, and along and across Amargosa Creek. The proposed pump station would be located at the PWRP, which is currently undergoing construction associated with upgrading the treatment facility to produce tertiary-treated recycled water. The proposed steel recycled water storage tank would be located within a County-owned parcel, which currently contains a potable water storage tank. The proposed tank site is adjacent to commercial uses to the north and residential land uses to the east, and is also adjacent to the Antelope Valley Freeway (State Route 14).



SOURCE: ESA, 2011.

Regional Recycled Water Phase 2 Pipeline

Figure 2
Proposed Phase 2
Pipeline Alignment

2.1.1 Pipelines

The proposed Phase 2 recycled water pipelines would connect to the PWRP and would provide the backbone for distribution of recycled water throughout the City of Palmdale. Once Phase 2 is constructed, this portion of the Regional Recycled Water Project distribution system would be operational. The pipelines would eventually connect at the intersection of Avenue M and Sierra Highway to future recycled water pipelines to be built by the City of Lancaster. Phase 2 would include approximately 41,250 linear feet of 24-inch diameter steel pipe and 5,200 linear feet of 16-inch diameter steel pipe. The pipes would be colored purple or installed with purple warning identification tape, in accordance with the California Health and Safety Code requirements for recycled water pipelines (Division 104, Part 12, Chapter 5, Article 2, Section 116815). All pipelines would be aligned within the public ROW of City and County streets, within the City of Palmdale's Amargosa Creek drainage easement, on property owned by LACWWD40, City of Palmdale, or LACSD, or within easements owned or to be acquired by LACWWD40 (see Figure 2**)**. Air-relief valves and blow-off valves would be installed at peak elevations and low elevations, respectively, and as needed between valves to accommodate pipeline dewatering or system charging. The valves would typically be installed within sidewalk ROWs.

The Amargosa Reach of the pipeline would include a segment to be built along the unpaved utility road that runs adjacent to Amargosa Creek within the City's drainage easement. From Avenue O, the pipeline would head south along the east bank of the creek, running between the creek and the Antelope Valley Country Club. South of the country club, the pipeline would cross the creek and continue south along the west bank before ending at the steel storage tank site (Figure 2). The pipe would be contained within a concrete encasement for protection at creek crossings (**Figure 3**).

2.1.2 Storage Tank

Phase 2 includes the construction of a new recycled water storage tank, which would be located on a parcel owned by LACWWD40, adjacent to the Antelope Valley Freeway (see Figure 3). The storage tank would have a 3.0 million gallon (MG) capacity. Outside security lighting and security fencing and block wall would be installed around the storage tank.

SOURCE: ESA, 2011.

Regional Recycled Water Phase 2 Pipeline

Figure 3

Proposed Recycled Water Tank

2.1.3 Pump Station

Phase 2 includes a new pump station located at the PWRP (see **Figure 4**). The proposed pump station would pump recycled water from the PWRP through the backbone system pipelines to the storage tank. The pump station would have a capacity of 9,200 gallons per minute (gpm) (850 HP) and a construction footprint of approximately 1,200 square feet. Outside security lighting would be installed at the pump station. The pump station would have stand-by capabilities in the event that a pump must be taken off-line. All new facilities to be installed at the PWRP would be accessible from the main entrance gate.

SOURCE: ESA, 2010.

Regional Recycled Water Project Phase 2

Figure 4
Proposed Pump Station

2.1.4 Recycled Water End Use

Identified in the Antelope Valley Integrated Regional Water Management Plan, Regional Recycled Water Project facilities would distribute recycled water from the PWRP, LWRP, and RWWTP throughout the Antelope Valley for beneficial use by various categories of end users in accordance with Title 22 of the CCR. These non-potable end uses are described in detail in the Final PEIR (ESA, 2008) and include M&I, agricultural irrigation, cooling water for power plants, and groundwater recharge.

M&I applications of recycled water have been evaluated at the project level in the Final PEIR (see Table 1-2 in Chapter 1 of the Final PEIR). The application of recycled water for agricultural irrigation, industrial cooling (i.e. power plant cooling) and groundwater recharge has been evaluated at the program level in the Final PEIR. Additional environmental review and documentation would be required prior to implementation of agricultural reuse projects or groundwater recharge reuse projects (GRRPs). The proposed Phase 2 pipelines would include a lateral to serve the future Palmdale Hybrid Power Plant (PHPP). Construction and operation of the PHPP requires independent environmental review pursuant to CEQA. This industrial cooling end use would be thoroughly evaluated at the project level in any subsequent CEQA documentation produced for the PHPP or other future power plants.

Distribution pipelines would be required to connect all end users to the Regional Recycled Water Project backbone system. As described in the Final PEIR, these transmission pipelines are not included as part of the Regional Recycled Water Project and will be subject to subsequent approvals and environmental review pursuant to CEQA.

2.2 Project Construction Schedule

Construction of Phase 2 would begin in November 2012 and end in October 2014, for a total of 24 months. Pipeline installation would be ongoing for the duration of construction. The construction of the pump station would take approximately nine months and the construction of the storage tank would take approximately six months.

2.3 Construction Details

2.3.1 Pipelines

Construction of the proposed recycled water pipelines would involve trenching using a conventional cut and cover technique, and jacking and boring where necessary. No dewatering would be required. The trenching technique would include saw cutting of the pavement where applicable, trench excavation, pipe installation, backfill operations, and re-surfacing to the original condition. The trench would be five to seven feet deep and four to five feet wide. The pipeline would be installed a minimum of four feet below ground surface (bgs). The construction corridor would be approximately 20 feet wide to allow for traffic control, staging areas and vehicle access. Construction staging areas would be identified by the contractor for pipe lay-down, soil stockpiling, and equipment storage. On average, 50 to 100 feet of pipeline may be installed per day.

Trenches would be temporarily closed at the end of each work day, by covering with steel trench plates and installing barricades to restrict access to staging areas. The construction equipment needed for pipeline installation includes: backhoe, excavator, bracing, welding equipment, boom lift truck, steam roller, plate compactor. Approximately six to seven workers per day would be required for pipeline installation. Approximately 930,000 to 974,000 cubic feet of soil excavated during pipeline construction would require offsite disposal. When feasible native soils will be retained to use as bedding and backfill and will be disposed of offsite. Approximately 2,200 cubic feet of concrete would be required for the encasement to cross the Amargosa Creek.

Jack and bore tunneling is used when trenching is not feasible because the ground surface cannot be disturbed, such as under railroad lines. For Phase 2 construction, jack and bore methods would be used to install the pipeline across the Metrolink/Union Pacific Railroad tracks near Avenue O-8 and just south of Avenue M (see Figure 2). This tunneling method employs a horizontal boring machine or an auger that is advanced in a tunnel bore to remove material ahead of the pipe. Temporary bore pits and receiving pits are excavated on either side of the segment. Powerful hydraulic jacks are used to push a steel casing pipe from a launch (bore) pit to a receiving pit. As the tunneling machine is driven forward, a jacking pipe is added into the pipe string. After installment of the casing pipe, a smaller carrier pipe is inserted into the casing pipe. The carrier pipe would convey the recycled water. A jacking pit typically measures as little as 10 feet by five feet up to approximately 30 feet by 10 feet. The temporary pits typically would be excavated to a depth of five to 20 feet, as needed. Recycled water pipeline installation by this method would require approximately one to two weeks per crossing; excavated soils would be retained for backfill.

Traffic control would be necessary during pipeline construction within streets, but complete road closures are not anticipated. The Traffic Control Plan for the project would conform to traffic control standards established by the California Department of Transportation (Caltrans), the City of Palmdale, and the City of Lancaster. Up to two or three workers would be required for traffic control during pipeline installation. Equipment necessary for traffic control includes changeable message signs, delineators, arrow boards, and K-Rails. The Traffic Control Plan for the project would be coordinated with both the City of Palmdale and City of Lancaster as applicable.

2.3.2 Pump Station

The pump station would be housed in a single-story building with a pump room and an electric control room. The pump station exterior would be built in accordance with standard construction methods for roofed masonry buildings, including steel reinforced (tied) concrete foundations and masonry walls. Construction of the pump station would involve installation of piping and electrical equipment, excavation and structural foundation installation, pump house construction, pump and motor installation, and final site restoration. The pump station would have flow meters, suction and discharge pressure gauges, and remote telemetry units. Power to the pump station would be provided through underground service to minimize possibility of damage during fires.

The construction equipment needed for pump station installation includes: auger truck, backhoe, boom lift truck, excavator, plate compactor, and scaffolding. Approximately three to six workers would be required at a time during various phases of pump station construction, with the

exception of the masonry phase, which would require up to 12 workers. A footprint of approximately 1,200 square feet would be excavated to a depth of five feet for the pump station. Approximately 10,000 cubic feet of soil would be excavated and would require offsite disposal for the pump station. Approximately 4,000 cubic feet of concrete would be required for the pump station. No dewatering would be required.

2.3.3 Storage Tank

Construction of the new storage tank would include site preparation and clearing, excavation, grading, tank erection and painting, and site restoration. The storage tank would be constructed of prefabricated 8-foot-high steel rings, stacked and welded to the desired height.

The construction equipment needed for tank installation includes: cranes, flatbed trucks for panels, heavy duty welding machines, excavators, scrapers, rollers, pre-stressing equipment and backhoes for foundation, and painting equipment. There would be nominal dewatering. Approximately 106,500 cubic feet of soil would be removed during excavation for the storage tank and approximately 55,000 cubic feet would require offsite disposal.

2.3.4 Construction Staging Plan

During construction of the pump station and storage tank, staging areas and vehicle parking areas would be located within the boundaries of each site. A temporary trailer would be placed onsite as an office for necessary staffing. Per the *Standard Specifications for Public Works Construction*, Best Management Practices (BMPs) shall be implemented to mitigate pollution of areas outside of the surrounding site barriers.

Pipeline construction would occur mostly within public ROW of City and County streets. A temporary office would be placed at one of the aforementioned sites. Alternatively, the construction contractor may place a temporary office on the properties of nearby establishments. Site selection would depend on practicality and availability. Construction parking would vary with progress along the linear pipeline corridor. During construction, the contractor would acquire easements from surrounding establishments for temporary parking. Traffic control devices would be incorporated into the design plans to ensure smooth traffic flow during construction. A detailed staging plan would be prepared once the project design begins. There are six hundred acres available for staging at the Palmdale Hybrid Power Plant Project property near Avenue M and Challenger Way.

2.4 Operation and Maintenance Details

As described in the Final PEIR, the proposed recycled water backbone distribution system must be operated as a regional system to ensure sufficient volumes and pressures are maintained throughout the entire system (see Final PEIR, page 2-20 to 2-21). The backbone system would be owned and operated by a combination of one or more of the partner agencies listed previously or a Joint Powers Authority (JPA). Recycled water for the Regional System would be purchased from LACSD Nos. 14 and 20 and the RCSD. Operational agreements stipulating use restrictions and commitments would be established by local water agencies with end users for each end use.

The following staff is required to operate the system: engineering; electro-mechanics; qualified operators; meter readers; laborers; heavy equipment operators; billing; customer service.

Maintenance inspection of pump station electrical equipment would occur weekly, with other inspections and testing occurring routinely. The storage tank would be serviced once a week, with structural inspections on a quarterly basis. The pipelines would be largely underground and serviced on an as-need basis, with annual inspections and testing of various components.

2.4.1 Energy Consumption

The 9,200-gpm pump station would consume 905,686 kW/hr at completion in 2012, and an estimated 18,113,720 kW/hr in 2030.

2.5 Alternatives

In accordance with NEPA Section 102(1)(E) and the CEQ regulations for implementing NEPA (40 CFR Section 1508.9), an EA need only analyze the proposed action and may proceed without consideration of additional alternatives when there are no "unresolved conflicts concerning alternative uses of available resources." There are no unresolved conflicts concerning alternative uses of available resources for the proposed action. Phase 2 of the Regional Recycled Water Project would facilitate the beneficial use of recycled water resources in the Antelope Valley.

As required by the CEQ regulations (NEPA), this IS/MND/EA evaluates the No Project Alternative in addition to the proposed project. Other alternatives to the proposed project have been considered but eliminated from further discussion for reasons described below.

2.5.1 Project Alternatives

Location Alternatives

As described in the Final PEIR for the Regional Recycled Water Project (2008), alternative alignments for the pipelines and alternative locations for the storage reservoirs and pump stations were considered during the preliminary design phase of the project. The screening criteria considered during preliminary design of the recycled water pipelines included (1) minimizing the distance between the water reclamation plants; (2) minimizing the distance between the recycled water pipelines and the identified end users; (3) optimizing existing utility easement corridors; and (4) optimizing the use of existing recycled water pipes and routes. The locations of storage reservoirs are based on the pipeline alignments and elevations. Alternative locations for project components, including Phase 2 components, have been eliminated from further consideration.

Non-Integrated System Alternative

Instead of implementing the proposed project, LACWWD40, PWD, QHWD, and RCSD considered a non-integrated system as a project alternative, whereby each agency would design, construct, and operate their own recycled water system. This Non-Integrated System Alternative would result in four separate recycled water systems in the Antelope Valley instead of one integrated regional system. LACWWD40 would construct recycled water pipelines, pump

stations, and storage reservoirs within its service area. LACWWD40 would contract independently with LACSD No. 14, LACSD No. 20, and RCSD to purchase recycled water for the end users in its service area. As described in the Final PEIR (2008) for the Regional Recycled Water Project, this alternative was rejected because it would not meet all the of project objectives and would hinder regional plans, such as the Antelope Valley Integrated Regional Water Management Plan, to use recycled water to meet water demands in the region. In addition, this alternative could have a greater footprint than the proposed project and result in greater physical environmental effects as a result.

2.5.2 No-Action Alternative

An environmental analysis of the No Action Alternative is required by the CEQ regulations (NEPA) to serve as a benchmark against which the proposed project can be evaluated. Under the No-Action Alternative, the proposed project would not be implemented. There would be no new recycled water backbone facilities associated with the Regional Recycled Water Project in the City of Palmdale. The No Action Alternative would not provide facilities to accommodate regional recycled water demand or integrate regional recycled water facilities in the Antelope Valley. The No Action Alternative would not reduce the region's dependency on imported water, augment local water supplies, or promote beneficial use of recycled water to offset potable water use. The No Action Alternative would result in the fewest direct natural environmental effects of available alternatives, because no physical changes to the environment within the area of potential impact would result.

2.6 Project Approvals

LACWWD40 intends to use this IS/MND/EA to consider implementation of Phase 2. As CEQA Lead Agency, LACWWD40 may use this IS/MND/EA to approve the proposed project. As the NEPA Lead Agency, the EPA may use this IS/MND/EA to approve the proposed project. LACWWD40 would use the analysis contained within this IS/MND/EA to support the acquisition of regulatory permits or approvals, such as the following:

- California Department of Fish and Game: Streambed Alteration Agreement (Amargosa Creek) Regional Water Quality Control Board: WRR/Master Reclamation Permit for water reuse
- Los Angeles County Department of Public Health: Approval to operate recycled water system (obtain amendment to Los Angeles County Sanitation District's Master Permit)
- Los Angeles County Department of Public Works: Roadway Encroachment Permit/Traffic Control Plan for south side of Avenue P.
- Los Angeles County Sanitation Districts: Easements at PWRP
- Metrolink/Union Pacific Railroad: Encroachment Permit / Easement
- City of Lancaster: Roadway Encroachment Permit / Easement, Traffic Control Plan for impacts on the north side of Avenue M.
- City of Palmdale: Roadway Encroachment Permit / Easement, Traffic Control Plan, Amargosa Channel Drainage Easement
- Antelope Valley Country Club: Easement

References

Antelope Valley Integrated Regional Water Management Plan (IRWMP), 2007

Environmental Science Associates (ESA), Final Program Environmental Impact Report for North Los Angeles/Kern County Regional Recycled Water Project. Prepared for Los Angeles County Waterworks district 40, Antelope Valley. November, 2008.

Los Angeles County Waterworks District No. 40, Draft North Los Angeles/Kern County Regional Recycled Water Project Phase 2, Design Strategy Report, September 27, 2010

USEPA Publication No. 315-K-08-001, 2008

CHAPTER 3

Affected Environment and Environmental Consequences

Environmental Checklist

1. Project Title:	Phase 2 of the North Los Angeles/Kern County Regional Recycled Water Project.
2. Lead Agency Name and Address:	Los Angeles County Waterworks District No. 40 900 S. Fremont Ave Alhambra, CA 91803
3. Contact Person and Phone Number:	Jonathan King, 626-300-3389
4. Project Location:	City of Palmdale
5. Project Sponsor's Name and Address:	N/A
6. General Plan Designation(s):	Public Facility (SP) Regional Commercial (RC)
7. Zoning Designation(s):	Public Facility (PF) Prezone Public Facility (PF PZ)

8. Description of Project: Please refer to the Description of Proposed Action provided in Chapter 2.

9. Surrounding Land Uses and Setting: Please refer to the Description of Proposed Action provided in Chapter 2.

10. Other public agencies whose approval is required:

- Regional Water Quality Control Board: WRR/Master Reclamation Permit for water reuse
- California Department of Fish and Game: Streambed Alteration Agreement (Amargosa Creek)
- Los Angeles County Department of Public Health: Approval to operate recycled water system (obtain amendment to Los Angeles County Sanitation District's Master Permit)
- Metrolink/Union Pacific Railroad: Encroachment Permit / Easement

- City of Lancaster: Roadway Encroachment Permit / Easement, Traffic Control Plan
- City of Palmdale: Roadway Encroachment Permit / Easement, Traffic Control Plan, Amargosa Channel Drainage Easement
- Los Angeles County Sanitation District: Easements at PWRP
- Los Angeles County Department of Public Works: Roadway Encroachment Permit
- Antelope Valley Country Club: Easement
- Other public agencies whose approval is required

Environmental Factors Potentially Affected

CEQA Guidelines Appendix G

The proposed project could potentially affect the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental factor.

☒ Aesthetics	☐ Agriculture and Forestry Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Geology, Soils and Seismicity
☐ Greenhouse Gas Emissions	☒ Hazards and Hazardous Materials	☒ Hydrology and Water Quality
☒ Land Use and Land Use Planning	☐ Mineral Resources	☒ Noise
☐ Population and Housing	☐ Public Services	☐ Recreation
☒ Transportation and Traffic	☒ Utilities and Service Systems	☒ Mandatory Findings of Significance

NEPA Environmental Cross-Cutters

Environmental cross-cutters are federal statues, executive orders, or regulations that address the federal responsibility for protecting and conserving specific environmental resources. Federal agencies such as the USEPA are required to consider the impacts of their actions on cross-cutter resources and documented as part of the decision-making process.

The proposed project and the No Action Alternative would have no impact on the following cross-cutter resources. As such, these resources are not analyzed further in this document:

1) Coastal Barrier Resources. The proposed action would not be located within the Coastal Barrier Resources System, which is protected under the Coastal Barriers Resource Act (16 U.S.C. §§3501-3510).

2) Coastal Zones. The proposed action would not be located in the coastal zone as defined by the Coastal Zone Management Act (16 U.S.C. §§1451-1466)

3) Wild and Scenic Rivers. The proposed action would not affect any wild and scenic river, or adjacent lands, as designated under the Wild and Scenic Rivers Act (16 U.S.C. §§1271-1287).

4) Essential Fish Habitat. The Pacific Fishery Management Council has not designated any Essential Fish Habitat (EFH) in the vicinity of the proposed action, as required by the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. §§1801-1891), as amended by the Sustainable Fisheries Act of 1996.

The effect of the proposed project on the following cross-cutter resources are addressed in this document:

- Environmental Justice (Executive Order (EO) 12898)
- Historic Resources: National Historic Preservation Act (16 U.S.C. §§470-470x-6), Archeological and Historic Preservation Act (16 U.S.C. §469a-1)
- Wetlands (EO 11990 as amended by EO 12608)

- Clean Water Act, Section 404
- Flood Plain Management (EO 11988 as amended by EO 12148)
- Farmland Protection Policy Act (7 U.S.C. §§4201-4209)
- Endangered Species Act (16 U.S.C. §§1531-1599)
- Clean Air Act (42 U.S.C. §§7506(c)
- Safe Drinking Water Act (42 U.S.C. §§300f-300j-26)

CEQA DETERMINATION:

On the basis of this initial study:

☐ 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 "potentially 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 adequately 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, no further environmental documentation is required.

Signature	Date
Printed Name	For

3.1 Aesthetics

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
1. AESTHETICS — Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	☐	☒	☐	☐

Discussion

a) **No Impact.** Construction of the proposed recycled water pipelines, pump station, and storage tank would result in short-term impacts to aesthetics due to the presence of construction equipment and materials in the visual landscape. However, these project components are not located within a scenic vista as viewed from scenic highways designated in the Palmdale General Plan (City of Palmdale, 1993). Therefore, no impacts would occur to scenic vistas due to construction of these project components. In addition, once constructed, the pipelines would be belowground and would have no impacts to scenic vistas. The pump station located at the PWRP would be located at the site of an existing treatment plant with industrial buildings of similar height and character. The recycled water tank would be located on a parcel that is adjacent to Highway 14 and currently contains a water storage tank. As a result, the construction and operation of the proposed pump station and storage tank would not impact scenic vistas.

b) **No Impact.** The project area does not include any eligible or officially designated Scenic Highways as designated by the California Department of Transportation (Caltrans) (Caltrans, 2010). Therefore, the proposed project would not impact scenic resources within a state scenic highway corridor. The proposed project would not substantially damage scenic resources such as trees, rock outcroppings, or historic buildings.

c) **Less Than Significant.** Construction of the proposed recycled water pipelines, pump station, and storage tank would result in short-term impacts to aesthetic resources. Construction activities would require the use of heavy equipment and storage of materials on-site. During construction, excavated areas, stockpiled soils, and other materials at the construction site and staging areas would constitute negative aesthetic elements in the visual landscape. However these effects would be temporary during project construction and would not significantly impact the long-term visual character of the area.

Operation of the proposed pump station at the existing PWRP would change the existing visual character of the site. The proposed pump would be located in a corner of the

PWRP facility that generally has been characterized by vacant land adjacent to a wash. However, the PWRP is currently undergoing construction to expand the treatment capacity of the PWRP. The potential location for the proposed pump station is currently being used as a construction staging and operations area for the PWRP expansion. In addition, the implementation of the pump station would be a like use and therefore would not result in a significant change in the visual character of the site.

The proposed recycled water tank would be of similar size and character as the existing potable water tank already onsite. The presence of these facilities would not be considered a substantial alteration of the visual character of the site. The impact would be less than significant.

d) **Less Than Significant with Mitigation.** New exterior lighting would be installed around the proposed pump station and storage tank. Exterior lighting could adversely affect day and nighttime views by introducing a new source of light and glare. Implementation of the Mitigation Measure AES-1 would reduce potentially significant lighting impacts to a less-than-significant level.

Mitigation Measure

AES-1: The exterior lighting installed around the storage tank and pump station shall be of a minimum standard required to ensure safe visibility. Lighting shall be shielded and directed downward, away from neighboring land uses to minimize impacts of light and glare.

No Action Alternative

Under the No Action Alternative, all project sites would remain unchanged, and no new development or improvements would occur. Under the No Action Alternative, any environmental impacts that would result due to the proposed project would be avoided. The No Action Alternative would have no short-term or long-term impacts to visual or aesthetic resources. In addition, the No Action Alternative would not create an adverse aesthetic impact during construction nor introduce additional sources of light or glare to the project area.

References

California Department of Transportation (Caltrans). 2010. California Scenic Highway Mapping System, Officially Designated State Scenic Highways and Historic Parkways. http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm, Accessed December 2011

City of Palmdale. 1993. Environmental Resources Element of the City of Palmdale's General Plan

3.2 Agricultural and Forest Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
2. AGRICULTURAL AND FOREST RESOURCES — 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. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.				
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?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion

a,b) **No Impact.** According to the maps prepared for the Farmland Mapping and Monitoring Program of the California Department of Conservation, none of the proposed project components include agricultural resources. The project sites are not designated as Prime, Farmland of Statewide Importance, Unique or Important Farmland (FMMP, 2010). No part of the proposed project is located on land under a Williamson Act contract. Additionally, none of the project components would directly affect land that is zoned for agricultural uses by the City of Palmdale or the County of Los Angeles. Therefore, there would be no direct impact on agricultural land use designations and no conversion of farmland to non-agriculture uses.

Primary customers for the LACWWD40 are municipal and industrial land uses. However, the proposed project would provide some recycled water to existing agricultural customers to offset existing potable water sources that are used for irrigation

of existing agricultural lands. The proposed project would not result in the expansion of agricultural production in the region.

The Facilities Plans for the PWRP and LWRP include agricultural effluent management sites for application of recycled water produced at both reclamation plants (Final PEIR, 2008). The environmental effects of using recycled water for agricultural irrigation at these effluent management sites have been evaluated pursuant to CEQA in previous environmental documents. The Regional Recycled Water Project, and thus the proposed project, does not include these agricultural effluent management areas.

c,d) **No Impact.** The California Public Resources Code defines "forest land" under section 12220(g) as land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. The California Public Resources Code defines "timberland" as land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees. The California Government Code defines "timberland production zone" under section 51104(g) as an area which has been zoned pursuant to Sections 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, as defined in subdivision (h) of the Government Code 51104.

There is no forest land in the vicinity of the proposed project. The City of Palmdale Zoning Ordinance has no zoning categories related to forest land or timberland. Thus, there is no land in the vicinity of the project site that is zoned as forest land, timberland, or timberland zoned for timberland production. Therefore, there would be no impacts regarding the rezoning of forest land, timberland, or timberland zoned for timberland production. There also would be no impacts regarding the loss or conversion of forest land to non-forest use.

e) **No Impact.** As mentioned above, no portion of the project site is designated as Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or forest land. Therefore, there would be no direct conversion of farmland or forest land. Further, none of the areas immediately adjacent to the project site are designated as farmland. There would be no impact.

No Action Alternative

Under the No Action Alternative, all project sites would remain unchanged, and no new development or improvements would occur. The No Action Alternative would have no short-term or long term impacts to agricultural resources or the conversion of farmland since no development would occur. The No Action Alternative would not avoid any impacts to

agricultural or forestry resources because the proposed project would have no impacts to these resources.

References

California Department of Conservation. 2008. Farmland Mapping and Monitoring Program, Los Angeles County Important Farmland 2008. Available online: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2010/los10.pdf (January 2012)

3.3 Air Quality

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
3. AIR QUALITY — 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?	☐	☒	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
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)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Discussion

a) **Less Than Significant with Mitigation.** The proposed project is located in the Antelope Valley Air Basin (Basin). The Antelope Valley Air Quality Management District (AVAQMD) is the regional agency responsible for regulating air quality in the Basin. The AVAQMD has adopted an Air Quality Management Plan (AQMP) for determination of the significance of a project's contribution to local or regional pollutant concentrations. The proposed project would conflict with the AQMP if it would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emission reductions specified in the AQMP. In addition, the Air Quality Attainment Plan (AQAP) for the Basin established a program of rules and regulations directed at attainment of state and national air quality standards.

The AQMP identifies construction activities as factors contributing to overall emissions sources and provides source control measures to reduce this contribution. The proposed project would not result in emissions that would exceed AVAQMD significance thresholds during the short-term duration of construction. (See question (b) below). Nonetheless, the proposed project would be required to comply with the rules established by AVAQMD to reduce construction emissions, including fugitive dust control measures and vehicle maintenance measures.

Conformance with the AQAP is determined by demonstrating compliance with local land use plans and/or population projections, meeting the land use designation set forth in the local General Plan, and comparing assumed emissions in the AQAP to proposed emissions. The proposed project is limited to the provision of water supply infrastructure, as opposed to housing and commercial development that would directly affect the number of residents or employees within the area. The proposed project would not directly contribute to the creation of additional housing or jobs within the Antelope Valley and thus would not result in population growth. The proposed project is not intended to increase agricultural irrigation or production and would not result in job growth in the agricultural sector. As the current AQAP is based on land uses, population estimates, and employment projections set forth in the applicable General Plan, implementation of the proposed project would not conflict with the current AQAP. Therefore, impacts related to conflicts with applicable air quality plans would be less than significant. Nevertheless, Implementation of **Mitigation Measures AQ-1** to **AQ-6** would ensure that project construction would not violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Mitigation Measures

AQ-1: LACWWD40 shall include in contractor specifications the implementation of a fugitive dust control program pursuant to the provisions of AVAQMD Rule 403.

AQ-2: All construction equipment shall be properly tuned and maintained in accordance with manufacturer's specifications.

AQ-3: General contractors shall maintain and operate construction equipment so as to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues shall turn their engines off when not in use to reduce vehicle emissions. Construction emissions shall be phased and scheduled to avoid emissions peaks and discontinued during second-stage smog alerts.

AQ-4: Electricity from power poles rather than temporary diesel- or gasoline-powered generators shall be used to the extent feasible.

AQ-5: All construction vehicles shall be prohibited from idling in excess of five minutes, both on- and off-site.

AQ-6: LACWWD40 shall utilize coatings and solvents that are consistent with applicable AVAQMD or KCAPCD rules and regulations**.**

b) **Less Than Significant.**

Construction Emissions

Construction of individual project components involving development of new facilities and/or disturbance of land would generate substantial amounts of dust (including PM_{10}) primarily from "fugitive" sources (i.e., emissions released through means other than

through a stack or tailpipe) and lesser amounts of criteria air pollutants primarily from operation of heavy equipment construction machinery (mostly diesel operated) and construction worker commute trips. Construction activities would also generate evaporative emissions of ROG from asphalt paving and the use of architectural coatings on structures.

Construction of the proposed project would involve site preparation and clearing, excavation, paving, and construction. Proposed project construction activities would emit criteria pollutants (primarily ozone precursors such as reactive organic gases (ROG) and nitrogen oxides (NOx)) as a result of using heavy-duty construction equipment that is mostly diesel operated. Mobile source emissions would also be produced from construction worker vehicle trips to and from the project site. In addition, fugitive dust emissions would be generated from site preparation and excavation activities and vehicle travel on paved and unpaved surfaces. Fugitive dust emissions are released through means other than through a stack or tailpipe, such as ground disturbance.

Construction equipment exhaust also would include some PM_{10} and $PM_{2.5}$ emissions. PM_{10} and $PM_{2.5}$ consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. A micron is one-millionth of a meter. PM_{10} and $PM_{2.5}$ emissions from construction would vary greatly from day to day depending on the level of activity, the equipment being operated, silt content of the soil, and the prevailing weather. Larger-diameter dust particles (i.e., greater than 30 microns) generally fall out of the atmosphere within several hundred feet of construction sites, and represent more of a soiling nuisance than a health hazard. Smaller-diameter particles (e.g., PM_{10} and $PM_{2.5}$) are associated with adverse health effects and generally remain airborne until removed from the atmosphere by moisture. Therefore, unmitigated construction dust emissions could result in significant local effects.

Criteria pollutant emissions of ROG ,NOx, and carbon monoxide (CO) from construction equipment and construction worker vehicle trips would incrementally add to regional atmospheric loading of ozone precursors during the construction period.

The proposed project has been analyzed using URBEMIS 2007 version 9.2.4 to determine the emissions of criteria pollutants that would result during project construction. The results of the analysis are summarized in **Table 3-1** and are compared to the AVAQMD thresholds of significance for each air pollutant.

As depicted in **Table 3-1**, the estimated emissions of ROG, NOx, CO, SOx, PM_{10}, and $PM_{2.5}$ from project construction would not exceed AVAQMD thresholds of significance. Furthermore this project would be subject to AVAQMD Rule 403 that mandates the implementation of dust control measures that would further reduce project construction emissions.

TABLE 3-1
UNMITIGATED EMISSIONS FROM CONSTRUCTION
(tons per year)[a]

Project Component	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$	CO_2e
Year 2012							
Pipeline	0.12	0.88	0.57	0.00	0.05	0.05	101.38
Storage Tank	0.13	1.25	0.61	0.00	4.94	1.07	176.56
Pump Station	0.07	0.57	0.28	0.00	4.87	1.03	80.12
Total 2012	0.32	2.70	1.46	0.00	9.86	2.15	358.06
AVAQMD Thresholds of Significance	**25**	**25**	**100**	**25**	**15**	**15**	**100,000**
Significant (Yes or No)?	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Year 2013							
Pipeline	0.74	5.25	3.58	0.00	0.33	0.30	645.37
Storage Tank	0.51	0.47	0.32	0.00	0.51	0.13	61.45
Pump Station	0.17	1.33	0.62	0.00	0.06	0.06	186.51
Total 2013	1.42	7.05	4.52	0.00	0.90	0.49	893.33
AVAQMD Thresholds of Significance	**25**	**25**	**100**	**25**	**15**	**15**	**100,000**
Significant (Yes or No)?	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Year 2014							
Pipeline	0.59	4.11	2.94	0.00	0.25	0.23	539.04
AVAQMD Thresholds of Significance	**25**	**25**	**100**	**25**	**25**	**NA**	**NA**
Significant (Yes or No)?	**No**	**No**	**No**	**No**	**No**	**No**	**No**

[a] Project construction emissions estimates were made using URBEMIS2007, version 9.2. 4.

Values in **bold** are in excess of the applicable AVAQMD significance threshold. NA = Not Available.

SOURCE: ESA, 2011.

With regards to emissions of hydrogen sulfide and lead, which are two criteria pollutants that the AVAQMD has established emissions thresholds for, the project would not emit these pollutants during construction. Hydrogen sulfide is a colorless, flammable gas that is often produced by the breakdown of waste material, while lead is a metal that is generated predominantly today by industrial processes that are primarily associated with metals processing, such as smelters. The construction equipment used for construction of the proposed project would not result in the release of these pollutants into the atmosphere. Overall, air quality impacts during construction would be less than significant.

Operational Emissions

Maintenance inspection of pump station electrical equipment would occur weekly, with other inspections and testing occurring routinely. The storage tanks would be serviced once a week, with structural inspections on a quarterly basis. The pipelines would be largely underground and serviced on an as-need basis, with annual inspections and testing of various components. The vehicle trips associated with maintenance and inspections

would be minimal and would not generate emissions that would trigger an exceedance of the AVAQMD significance thresholds.

Additionally, as stated in Chapter 2, the 9200-gpm pump station would consume 905,686 kW/hr at completion in 2012 and an estimated 18,113,720 kW/hr in 2030. The electrical requirements for operating the pump station are due to pumps, motors and a small HVAC system. The pump station does not require a generator, and thus its operation would not involve the combustion of fuels that would result in exhaust emissions of criteria pollutants. The only operational emissions that would occur during project operation would be those associated with periodic vehicle trips for maintenance and inspections as described above. These emissions would be minimal. Operational emissions associated with the proposed project would have a less than significant impact on air quality.

c) **Less Than Significant.** The Basin is in nonattainment for federal and state ozone standards and state PM_{10} standards (CARB, 2011). As described above, the emissions of pollutants associated with construction the proposed project, including ozone precursors and PM_{10}, would not exceed AVAQMD thresholds of significance, and therefore are not expected to be cumulatively considerable. Emissions associated with operation of the proposed project are negligible and also are not expected to contribute to cumulatively considerable air quality impacts. Per CEQA Guidelines Section 15064(h)(4), the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable. Development of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant, and would be less than significant.

d) **Less Than Significant.** Some population groups, such as children and the elderly, are considered more sensitive to air pollution than others. The project would be constructed near residential areas. The nearest sensitive receptors to pipeline construction are single family residences north and south of Avenue O at approximately 70 feet away from the pipeline alignment and approximately 90 feet from Just Plane Kids on Avenue P. The nearest sensitive receptors to storage tank construction are the single family residences east of the storage tank at approximately 585 feet. The nearest sensitive receptor to pump station construction is the Just Plane Kids School, located approximately 2,910 feet northwest at 2555 East Avenue P.

Carbon Monoxide Hotspots

Ambient carbon monoxide concentrations normally are considered a local effect and typically correspond closely to the spatial and temporal distributions of vehicular traffic. Wind speed and atmospheric mixing also influence carbon monoxide concentrations. Under inversion conditions, carbon monoxide concentrations may be distributed more uniformly over an area that may extend some distance from vehicular sources.

Carbon monoxide concentrations have declined dramatically in California due to existing controls and programs. Most areas of the state including the proposed project region have no problem meeting the carbon monoxide state and federal standards. CO measurements and modeling were important in the early 1980's when CO levels were regularly exceeded throughout California. In more recent years, CO measurements and modeling have not been a priority in most California air districts due to the retirement of older polluting vehicles, less emissions from new vehicles and improvements in fuels. The clear success in reducing CO levels is evident in the first paragraph of the executive summary of the California Air Resources Board *2004 Revision to the California State Implementation Plan for Carbon Monoxide Updated Maintenance Plan for Ten Federal Planning Areas* (CARB, 2004), shown below:

> *"The dramatic reduction in carbon monoxide (CO) levels across California is one of the biggest success stories in air pollution control. Air Resources Board (CARB or Board) requirements for cleaner vehicles, equipment and fuels have cut peak CO levels in half since 1980, despite growth. All areas of the State designated as non-attainment for the federal 8-hour CO standard in 1991 now attain the standard, including the Los Angeles urbanized area. Even the Calexico area of Imperial County on the congested Mexican border had no violations of the federal CO standard in 2003. Only the South Coast and Calexico continue to violate the more protective State 8-hour CO standard, with declining levels beginning to approach that standard."*

Due to the short duration of construction (12 months), the pipeline construction linear progression rate of 50 to 100 feet per day near sensitive receptors, and distances between storage tank and pump station construction sites to sensitive receptors (585 feet and 2,910 feet respectively), project construction would not emit CO in quantities that could pose health concerns. In addition, as shown in Table 3-1, CO emissions associated with project construction would not exceed AVAQMD thresholds of significance.

Total vehicle trips associated with operation of the proposed project would be minimal. Due to the small amount of vehicle trips, the effect of project-related traffic on local CO concentrations along roadways and at intersections would be negligible. Thus, mobile-source emissions of CO would not be anticipated to result in or contribute substantially to an air quality violation. The short-term construction and long-term operational impacts of project-related CO emissions on sensitive receptors would be less-than-significant.

Toxic Air Contaminants

The California Air Resources Board (CARB) has declared that Diesel Particulate Matter (DPM) from diesel engine exhaust is a toxic air contaminant (TAC). Construction of the project would result in short-term exhaust DPM from on-site heavy-duty equipment. Project construction would generate DPM emissions from the use of off-road diesel equipment required for site grading and excavation, and other construction activities. The dose to which sensitive receptors are exposed is the primary factor used to determine

health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time.

According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Thus, the duration of the proposed construction activities (approximately 24 months) would only constitute a small percentage of the total 70-year exposure period. Construction activities for the most part would not be located near residential land uses. However pipeline construction would be located at a distance of approximately 70 feet from the nearest residence on Avenue O and approximately 90 feet from Just Plane Kids on Avenue P. Pipeline construction activities would not be near these sensitive receptors for a long period due to the pipeline construction linear progression rate of 50 to 100 feet per day. The nearest sensitive receptors to storage tank construction are the single family residences east of the storage tank at approximately 585 feet. The nearest sensitive receptor to pump station construction is the Just Plane Kids School, located approximately 2,910 feet northwest at 2555 East Avenue P. DPM from construction activities would not be anticipated to result in the exposure of sensitive receptors to levels that exceed applicable standards.

In addition, the long-term operation of the project would not result in any non-permitted sources of toxic air emissions. As a result, exposure of sensitive receptors to substantial toxic air emissions from the project would be less than significant.

e) **Less Than Significant.** Types of land uses that typically pose potential odor problems include agriculture, wastewater treatment plants, food processing and rendering facilities, chemical plants, composting facilities, landfills, waste transfer stations, and dairies. In addition, the occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. Although offensive odors rarely cause any physical harm, they can still be very unpleasant, leading to considerable distress and often generating citizen complaints to local governments and regulatory agencies. Although the recycled water may be used at such facilities as listed above, the recycled water would not be the source of objectionable odors. No part of the project would create odors at nearby sensitive receptors. Impacts would be less than significant.

No Action Alternative

Under the No Action Alternative, all project sites would remain unchanged, and no new construction or improvements would occur. The No Action Alternative would have no short-term or long term impacts to air quality since no construction or physical improvements would occur.

References

AVAQMD, *California Environmental Quality Act and Federal Conformity Guidelines*, August 2011.

California Air Resources Board (CARB), 2011. *2011 State Area Designation Maps (Ozone, PM_{10}, $PM_{2.5}$, CO, Nitrogen Dioxide).* Maps available online at: http://www.arb.ca.gov/desig/adm/adm.htm (page updated September 2011).

Urbemis 2007 Version 9.2.4 Model Runs, December 2011 (**Appendix A**)

3.4 Biological Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
4. BIOLOGICAL RESOURCES — 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?	☐	☒	☐	☐
b) 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?	☐	☒	☐	☐
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?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

The analysis below is based on field reconnaissance visits conducted by Environmental Science Associates (ESA) in 2010 and 2011. The methodologies utilized to collect baseline data and to describe biological resources, and analyze potential impacts are provided in the Biological Resources Technical Report prepared by ESA (ESA, 2012) (See **Appendix B**). This report also describes the environmental setting of the proposed project area, results of database and field reconnaissance, and identifies potential impacts on biological resources by construction and operation activities associated with the proposed project. Mitigation measures identified in the biological report are included in the discussion below. Reference information reviewed and analyzed in the Biological Resources Technical Report included the following:

- Final Program Environmental Impact Report for the North Los Angeles/Kern County Regional Recycled Water Project prepared by ESA (2008) for LACWWD40;
- Biological Technical Report for the North Los Angeles/Kern County Regional Recycled Water Project prepared by Bonterra Consulting (2008) for ESA;
- California Department of Fish and Game's (CDFG) California Natural Diversity Database (CNDDB) record search for USGS 7.5-minute topographic quadrangle maps:

Alpine Butte, Little Rock, Juniper Hills, Pacifico Mtn., Acton, Lancaster East , Lancaster West, Ritter Ridge, and Palmdale (CDFG 2011);

- Los Angeles County Significant Ecological Area Study prepared by England and Nelson Environmental Consultants (1976) for Los Angeles County Department of Regional Planning and Environmental Systems Research Institute;
- Various literature specific to descriptions of the habitat, vegetation types, and flora and fauna occurring in the project region (see References); and
- Aerial photographs.

Existing Environment

Regional

The proposed project is located in the Antelope Valley, which encompasses approximately 2400 square miles in northern Los Angeles County, southern Kern County, and western San Bernardino County. The Antelope Valley is situated within the western tip of the Mojave Desert, with Victor Valley and the Great Basin to the east, the San Gabriel Mountains to the south, and the Tehachapi Mountains to the northwest. The climate of the region can be characterized as arid desert, with average annual temperatures ranging from a high of 77.2˚ F to a low of 47.1˚ F (WRCC, 2010). The Palmdale area averages 7.6” of annual precipitation, with the majority of this amount accumulating as rain between the months of December to March (WRCC, 2010)

Local

The physical improvements associated with Phase 2 of the Project would be located in the Cities of Palmdale and Lancaster, Los Angeles County. Pipelines would be constructed within the public right-of-way of city streets and across the Amargosa Creek channel. The proposed pump station would be located onsite at the Palmdale Water Reclamation Plant (PWRP), which is owned by Los Angeles County Sanitation District No. 20 (LACSD No. 20). Prominent land uses in the area include the aerospace and agricultural industries. Land uses in the project area vary in degree of development and disturbance, including residential, commercial, industrial, institutional, agricultural, and open space. For the purpose of this report, the project area is defined as the areas of direct impacts and up to 500 feet on either side of the ROW. The project vicinity may include suitable species-specific habitats occurring outside of the ROW in the vicinity of the project area.

Drainages

Portions of the proposed pipelines are to be placed along or within Amargosa Creek; a riparian drainage and debris basin which drains the surrounding area to Rosamond Dry Lake Bed. All pipelines would be placed within the City of Palmdale’s Amargosa Creek flood control channel or within the utility easement adjacent to the creek.

Plant Communities and Habitats

Areas of proposed pipeline placement are generally disturbed, with various commercial and residential developments adjacent to the ROW. Undeveloped areas adjacent to the ROW mainly consist of native and nonnative ruderal vegetation, including black mustard (*Brassica nigra*), Russian thistle (*Salsola kali*), vinegarweed (*Trichostema lanceolatum*), and common nightshade (*Circaea alpine*). Native vegetation along and adjacent to portions of the ROW include rubber rabbitbrush (*Chrysothamnus nauseosus*), creosote (*Larrea tridentate*), fourwing saltbush (*Atriplex canescens*), California buckwheat (*Eriogonum fasciculatum*), and bursage (*Ambrosia sp.*). Several clusters of mature Joshua trees (*Yucca brevifolia*) occur with other associated native plant species adjacent to the ROW in undeveloped areas.

The area where the proposed pump station would be located is an existing water reclamation plant which is permanently disturbed and devoid of vegetation and associated wildlife habitats. The area where the storage tank would be located is highly disturbed and adjacent to an existing storage tank.

Wildlife

Disturbed, non-native habitats such as those which occur within the areas of Phase 2 improvements, generally provide low quality wildlife habitat; however, agricultural areas can provide high quality habitat for certain wildlife species (i.e., raptor foraging habitat). The desert scrub habitats adjacent to the project area provide potential habitat for a wide variety of lizards and snakes. Lizards that may occur in the project area include banded gecko (*Coleonyx variegatus*), desert iguana (*Dipsosaurus dorsalis*), common chuckwalla (*Sauromalus obesus*), Great Basin collared lizard (*Crotaphytus bicinctores*), long-nosed leopard lizard (*Gambelia wislizenii*), zebra-tailed lizard (*Callisaurus craconoides*), desert spiny lizard (*Sceloporus magister*), side-blotched lizard (*Uta stansburiana*), long-tailed brush lizard (*Urosaurus graciosus*), desert horned lizard (*Phrynosoma platyrhinos*), yucca night lizard(*Xantusia vigilis*), and western whiptail (*Cnemidophorus tigris*). Snake species that may occur include western blind snake (*Leptotyphlops humilis*), rosy boa (*Charina trivirgata*), spotted leafnosed snake (*Phyllorhynchus decurtatus*), coachwhip (*Masticophis flagellum*), western patchnosed snake (*Salvadora hexalepis*), glossy snake (*Arizona elegans*), gopher snake (*Pituophis melanoleucus*), common kingsnake (*Lampropeltis getulus*), long-nosed snake (*Rhinocheilus lecontei*), western shovel-nosed snake (*Chionactis occipitalis*), night snake (*Hypsiglena torquata*), speckled rattlesnake (*Crotalus mitchelli*), Mojave rattlesnake (*Crotalus scutulatus*), and sidewinder (*Crotalus cerastes*).

Some common bird species expected include California quail (*Callipepla californica*), greater roadrunner (*Geococcyx californianus*), ladder-backed woodpecker (*Picoides scalaris*), common raven (*Corvus corax*), verdin (*Auriparus flaviceps*), cactus wren (*Campylorhynchus brunneicapillus*), rock wren (*Salpinctes obsoletus*), and bewick's wren (*Thryomanes bewickii*). Raptor species expected to utilize agricultural areas for foraging include red-tailed hawk (*Buteo jamaicensis*), Cooper's hawk (*Accipiter cooperii*), ferruginous hawk (*Buteo regalis*), prairie

falcon (*Falco mexicanus*), and northern harrier (*Circus cyaneus*). Additionally, burrowing owl (*Athene cunicularia*) is known to inhabit abandoned agricultural fields in the vicinity.

Amphibian species that may occur in the chaparral habitats in the vicinity of Palmdale and within undisturbed areas of Amargosa Creek include western toad (*Bufo boreas*), black-bellied salamander (*Batrachoseps nigriventris*), and California (*Pseudacris* [*Hyla*] *cadaverina*) and Pacific (*Pseudacris* [*Hyla*] *regilla*) treefrogs. The introduced bullfrog (*Rana catesbeiana*) is also expected to occur throughout the project area wherever permanent or semi-permanent surface water occurs.

Discussion

The analysis below is based on the Biological Resources Technical Report prepared by ESA (ESA, 2011) **(Appendix B)**. For the purpose of this analysis, the project area is defined as the areas of direct impacts and up to 500 feet on either side of the pipeline ROW. The project vicinity may include suitable species-specific habitats occurring outside of the ROW in the vicinity of the project area.

Implementation of Phase 2 could potentially result in adverse impacts to local and regional biological resources. Due to the highly disturbed/developed nature of the project area, as well as the nature of the improvements being made, however, potential impacts to special-status plant and wildlife species are anticipated to be minimal. Phase 2 has the potential to cause direct and indirect impacts to jurisdictional features (e.g. Amargosa Creek) and sensitive natural communities (e.g. Joshua trees) within the project area. However, the implementation of appropriate avoidance measures, as well as agreements with state and local agencies would help to minimize these potential impacts as well. The implementation of the recommended mitigation measures provided below would ensure that any potential impacts to biological resources would be reduced to a less than significant level.

a) **Less Than Significant with Mitigation.** As a result of literature review and field surveys conducted for the proposed project area, a total of 19 special-status wildlife species were identified as having the potential to occur within the project area, including 2 species of herpetofauna, 12 avian species, 3 terrestrial mammal species, one amphibian species, and one bat species. No fish species were observed in the project area during the habitat assessment. Of these 19 species, 5 are state- and/or federally listed. Additionally, five special-status plant species were also determined to have potential to occur in the project area.

Of the 19 special-status wildlife species evaluated, 13 were determined to have a moderate to high potential to occur in the project area: loggerhead shrike (*Lanius ludovicianus*), burrowing owl (*Athene cunicularia*), ferruginous hawk (*Buteo regalis*), Le_-Conte's thrasher (*Toxostoma lecontei*), prairie falcon (*Falco mexicanus*), Swainson's hawk (*Buteo swainsoni*), northern harrier (*Circus cyanus*), cooper's hawk (*ccipiter cooperii*), Mohave ground squirrel (*Xerospermophilus mohavensis*), San Joaquin pocket mouse (*Perognathus inornatus*), silvery legless lizard (*Anniella pulchra*), Calfornia red-

legged frog (*Rana draytonii*), and coast horned lizard (*Phrynosoma blainvillii*). These species, therefore, have potential to be impacted by implementation of Phase 2 of the Project. It should be noted, however, that given the relatively disturbed nature of the area, habitat for these species is marginal at best, and any potential impacts to these species are expected to be minimal.

Areas surrounding the project area were found to contain marginal burrowing owl habitat along and adjacent to the ROW where pipelines would be placed. This species is known to utilize agricultural fields and open grasslands in the vicinity of the project area. Burrowing owl is a California Species of Special Concern. This species lives in ground squirrel and other mammal burrows that it appropriates and enlarges for its purposes. It typically is found in short-grass grasslands, open scrub habitats, and a variety of open, human-altered environments, such as golf courses, airport runways and agricultural fields. Burrowing owls have shown significant declines throughout California in recent years due principally to the conversion of grassland and pasturelands to agricultural and urban uses, and to poisoning programs to control California ground squirrels. The potential for burrowing owls to be present in the project area is considered to be moderate to high, and any impacts to burrowing owls would be considered significant. Potential impacts to burrowing owl, however, would be reduced to a level less than significant with implementation of **Mitigation Measure BIO-1**.

The project area is also in the vicinity of potential foraging and nesting habitat for several special-status raptor species including Swainson's hawk, northern harrier, Cooper's hawk, ferruginous hawk, and prairie falcon. Indirect impacts to these species in the form of noise and dust as a result of construction activities are possible. The project area traverses potential foraging and nesting habitat for Swainson's hawk and prairie falcon. In southern California, Swainson's hawk is mostly limited to spring and fall transients. Typical habitat for this species is open desert, grassland, or cropland containing scattered, large trees or small groves. Swainson's hawk roosts in large trees, but will roost on the ground if none available and typically nests on a platform of sticks, bark, and fresh leaves in a tree, bush, or utility pole often in riparian habitat in scattered trees or small groves in sparsely vegetated flatlands. Swainson's hawk is often found foraging in adjacent grasslands or suitable grain or alfalfa fields, or livestock pastures. Within the proposed project area, limited foraging habitat exists, because the proposed project primarily occurs within previously disturbed (urbanized) areas and along existing roadways (See Biological Resources Technical Report; ESA, 2012). The Swainson's hawk is not expected to occur in the project area, and therefore, impacts are expected to be less than significant.

Prairie falcon (*Falco mexicanus*) is on the CDFG Watch List. This species ranges from southeastern deserts northwest throughout the Central Valley and along the inner Coast Ranges and Sierra Nevada. Distributed from annual grasslands to alpine meadows, but associated primarily with perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub areas. This species uses open terrain for foraging. It usually nests

in a scrape on a sheltered ledge of a cliff overlooking a large, open area, and sometimes uses old raven or golden eagle stick nests on cliffs, bluffs, or rock outcrops. This species could forage with the undisturbed desert scrub or Joshua tree woodland areas located near the proposed project; however, no suitable nesting habitat occurs in the project vicinity. Prairie falcon is not expected to nest in the project vicinity; therefore, impacts are expected to be less than significant.

Cooper's hawk, and ferruginous hawk are on the State Watch List. Additional bird species that have been recorded in the vicinity of the project area and have potential to be impacted by Phase 2 include loggerhead shrike and Le Conte's thrasher; both of which are State Species of Special Concern. All of the above-mentioned bird species are protected under the federal Migratory Bird Treaty Act (MBTA). Impacts to these species would be reduced to a less than significant level with implementation of **Mitigation Measure BIO-2**.

Of the five special-status plant species determined to have potential to occur in the project area, none were observed during the biological resources reconnaissance survey. However, focused rare and special-status plant surveys were not conducted for the project area and thus special-status plants, including sagebrush loeflingia, could potentially occur in the project area. Pre-construction surveys for rare and special-status plants, detailed below in **Mitigation Measure BIO-3** would reduce potential impacts to a less than significant level.

Mohave ground squirrel, a state Threatened species and a BLM Sensitive species, has potential to occur in native, undisturbed habitats in the project vicinity, and CNDDB occurrences have recorded this species within a 3-mile radius to the north and south of the project area. San Joaquin pocket mouse, a BLM Sensitive species, may occur in native shrubland or agricultural fields in the project vicinity. CNDDB occurrences of this species have been recorded within a 3-mile radius to the south of the project area.

Coast horned lizard, a state Species of Special Concern, was also recorded in the vicinity of the project area along portions of the Sierra Highway and has potential to occur in the project area. Silvery legless lizard, a state Species of Special Concern and a BLM Sensitive species, also has potential to occur in the project vicinity. Native habitats at the base of San Gabriel Mountains provide potentially suitable habitat within the known range of this species. Although silvery legless lizard is not expected to occur in areas of Phase 2 improvements due to lack of suitable habitat, CNDDB have recorded this species within a 3-mile radius of the project area to the south and west. California red-legged frog, a state Species of Special Concern and a federally Threatened species, is known to occur in Amargosa Creek drainage, and Critical Habitat is located near the west end of the pipeline not associated with Phase 2 of the alignment on Elizabeth Lake Road. Although highly unlikely due to the absence of a permanent source of water, this species may occur in the Amargosa Creek in the project vicinity if conditions allow. Potential impacts to Mohave ground squirrel, San Joaquin pocket mouse, coast horned lizard,

silvery legless lizard, and California red-legged frog would be reduced to a level less than significant with implementation of **Mitigation Measures BIO-4 through BIO-7.**

In accordance with USEPA environmental cross-cutter procedure, a letter has been submitted to the USFWS requesting concurrence with a determination of not likely to effect, pursuant to Section 7 of the federal Endangered Species Act. A copy of this concurrence letter will be provided in **Appendix D**. A response from the USFWS is pending.

Mitigation Measures

BIO-1: A pre-construction survey shall be conducted within areas containing suitable habitat for burrowing owls 14 to 30 days prior to clearing of the site by a qualified biologist in accordance with the most recent CDFG protocol, currently the *Staff Report on Burrowing Owl Mitigation* (CDFG 1995). Surveys shall cover areas disturbed by construction including a 200-foot buffer. The survey would identify adult and juvenile burrowing owls and signs of burrowing owl occupation. If potential presence if determined through a Phase II burrow survey, a Phase III survey shall be conducted and shall include two early morning surveys and two evening surveys to ensure that all individuals or owl pairs have been located:

- If occupied burrowing owl habitat is detected on or adjacent (i.e., within 200 feet) to the proposed project site, measures to avoid, minimize, or mitigate impacts shall be incorporated into the project and shall include the following:
  - Construction exclusion areas shall be established around the occupied burrows in which no disturbance shall be allowed to occur while the burrows are occupied. During the non-breeding season (September 1 through January 31), the exclusion zone shall extend 50 feet around the occupied burrows. During the breeding season (February 1 through August 31), exclusion areas shall extend 160 feet around occupied burrows.
  - Passive relocation of on-site owls may be implemented during the non-breeding season after coordinating with CDFG. Passive relocation shall be accomplished by installing one-way doors on the entrances of burrows located within 50 feet of the project site. The one-way doors shall be left in place for 48 hours to ensure that the owls have left the burrow.
  - For each burrow affected by project construction, two alternate unoccupied natural or artificial burrows shall be provided outside of the 50-foot buffer zone (CDFG 1995). The alternate burrows shall be monitored daily for one week to confirm that owls have moved and acclimated.

BIO-2: If construction and vegetation removal is proposed during the typical bird nesting period (February 1 through August 31), preconstruction surveys for nesting/roosting bird species shall be conducted by a qualified biologist within 30 days prior to construction, with at least one survey conducted no more than five

days prior to the onset of construction (or vegetation removal). The surveys shall include habitats within 500 feet of the construction limits. This survey shall include species protected under the MBTA including the loggerhead shrike, Swainson's hawk, and Cooper's hawk. The survey shall cover all reasonably potential nesting locations for the relevant species on or closely adjacent to the project site.

Active nest sites located during the pre-construction surveys shall be avoided and a non-disturbance buffer zone established dependent on the species as determined by the monitoring biologist. Buffer distances are typically 300 feet for common birds and passerine species and 500 feet for raptors and special-status species. The buffer zone shall be delineated in the field with flagging, stakes or construction fencing. Nest sites shall be avoided until the adults and young are no longer reliant on the nest site for survival as determined by a qualified biologist. CDFG will be notified of the identification of active nests and will be consulted regarding resumption of construction activities.

BIO-3: LACWWD40 shall have a qualified biologist conduct a pre-construction spring floristic inventory and rare plant survey to determine and map the location and extent of special-status plant species populations within the construction right-of-way.

- The project shall minimize impacts on special-status plant species by reducing the construction right-of-way through areas with documented occurrences of special-status plant species if any are found.
- If special-status plant populations are identified within the construction right-of-way, the project applicant shall stake, flag, fence, or otherwise clearly delineate the construction right-of-way that restricts the limits of construction to the minimum necessary to implement the project that also would minimize impacts on special-status plants.
- If special-status plant populations are identified within the construction right-of-way, the project applicant shall salvage and stockpile the top 12 inches of soil in the construction zone, including plant material and duff for use in the restoration efforts.

If special-status plant populations are identified within the construction right-of-way, the project applicant shall prepare and implement a special-status species salvage and replanting plan, for unavoidable temporary impacts on special-status plants. The salvage and replanting plan shall include measures to salvage, replant, and monitor the construction zone until native vegetation is re-established under the direction of CDFG and USFWS.

BIO-4: A Worker Environmental Awareness Program (WEAP) would be implemented to educate construction crews and contractors on sensitive biological resources that could occur on the project site. As part of the WEAP, special-status species with potential to occur on the project site would be reviewed along with

appropriate avoidance measures to be implemented. The WEAP would be required for all associated on-site construction personnel prior to the commencement of construction activities and a record of participation shall be maintained.

BIO-5: Prior to project implementation, a biological reconnaissance survey should be conducted by a qualified biologist to determine if potential habitat is present for the following species: California red-legged frog, Mohave ground squirrel, coast horned lizard, San Joaquin pocket mouse, and silvery legless lizard. If potential habitat is present for these species, then the implementing agencies should arrange for a qualified biologist with the necessary permits to conduct focused surveys for the specific species warranted. If focused surveys determine that a special-status species is present, then LACWWD40 should take the steps necessary to avoid any potential direct or indirect impacts (i.e. construction noise and dust) that may be incurred by the special-status species present. If impacts are unavoidable, then consultation with the CDFG and/or USFWS shall occur in order to obtain the required take permit prior to any project activities that may result in impacts on California red-legged frog, Mohave ground squirrel, coast horned lizard, San Joaquin pocket mouse, or silvery legless lizard.

BIO-6: Prior to project implementation, a habitat assessment will be conducted by a qualified biologist to determine the potential for the Mohave ground squirrel to occur. If the habitat assessment determines that potential habitat for the Mojave ground squirrel is present in the impact zone or within 300 feet of the construction zone, then LACWWD40 have two options:

1) assume the Mohave ground squirrel is present and either take the steps necessary to avoid any potential direct or indirect impacts (i.e., construction noise and dust) that may be incurred by the Mohave ground squirrel or;
2) arrange for a qualified biologist with the necessary permits to implement a trapping program to determine the presence or absence of the Mohave ground squirrel.

BIO-7: All steep-walled trenches or excavation pits used during construction shall be covered at all times except when being actively utilized. Covers shall be strong enough to prevent wildlife from falling through and shall be designed to exclude small animals, including Mohave ground squirrel, coast horned lizard, San Joaquin pocket mouse, and silvery legless lizard. If the trenches or excavations cannot be covered, exclusion fencing constructed of materials that would exclude both large and small wildlife species shall be installed around the trench or excavation to prevent entrapment of wildlife. Open trenches, or other excavations that could entrap wildlife shall be inspected by a biological monitor a minimum of three times per day and immediately before backfilling. If present, construction shall not occur until the animal has left the trench or been removed by a qualified biological monitor as feasible. Employees and contractors shall look under vehicles and

equipment for the presence of wildlife before movement. If wildlife is observed, no vehicles or equipment shall be moved until the animal has left voluntarily or is removed by the biological monitor. No listed species shall be handled.

b) **Less Than Significant with Mitigation.** Proposed pipelines are to be placed along approximately one mile of Amargosa Creek between West Avenue O4 and the Antelope Valley Freeway/State Route 14. This area of the creek is surrounded by highly disturbed, developed land, with a pedestrian bike path running along the east bank adjacent to a golf course and a commercial development bordered by ornamental landscaping along the west bank. No portions of the creek where pipelines are proposed to be placed support any riparian or wetland vegetation. Within the proposed project area, the Amargosa Creek is channelized and traverses through urban areas and city streets. The banks are lined with either soil-cement or rip-rap and the creek has a soft soil bottom.

A jurisdictional delineation study conducted in 2008 determined that the creek is not subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps) under Section 404 of the Federal Clean Water Act due to its isolation from navigable waterways (ESA, 2008).The Amargosa Creek is, however, subject to regulation by the CDFG under Section 1602 of the California Fish and Game Code. A stream is defined under these regulations 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. This definition includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation. CDFG jurisdiction typically extends to the edge of the riparian vegetation canopy. Although areas of the creek where improvements are to be made do not support riparian or wetland vegetation, and no special-status species are expected to be supported by this section of the creek, a Streambed Alteration Agreement (SAA) with the CDFG will need to be established (**Mitigation Measure BIO-8**).

Some areas where pipelines are to be constructed are directly adjacent to Joshua tree woodland and Joshua trees occur within the construction zone in some cases. Joshua trees are protected under the City of Palmdale's Joshua Tree and Native Desert Vegetation Preservation Ordinance (Chapter 14.04 of Title 14 of the Palmdale Municipal Code). If Joshua trees are to be disturbed or removed as a consequence of construction activities, the operating agencies must fulfill one of the requirements outlined in **Mitigation Measure BIO-9,** below**,** to reduce potential impacts to Joshua trees to a level less than significant.

Mitigation Measures

BIO-8: Construction crews shall avoid permanently altering streambeds and banks of Amargosa Creek and all features of the creek shall be restored to previous conditions once construction is complete. The operating agencies shall secure a SAA from the CDFG and impacts to the streambed of Amargosa Creek will be mitigated based on measures adopted in the SAA.

BIO-9: Efforts will be made to prevent permanent native vegetation loss to the greatest extent feasible. If removal of Joshua trees is deemed unavoidable, then LACWWD40 must take one of the following actions to fulfill obligations under provisions of the Code:

1. Obtain a desert vegetation removal permit from the City of Palmdale's landscape architect or his or her designee. The City currently maintains a minimum preservation standard of two (2) Joshua trees per gross acre, averaged for the gross site area covered by the development application. This standard can also be modified, as determined by the City, to reflect an appropriate preservation ratio as site conditions warrant. The City currently requires proponents for projects likely to impact Joshua trees to acquire off-site habitats of equal or superior quality at no less than a 2:1 ratio within remaining habitat in the Antelope Valley. The terms, conditions, implementation, and location of these mitigation measures shall be determined through consultation with relevant resource agencies, including the CDFG.

2. Secure an exemption from the provisions of Chapter 14.04 of the Code, under Subsection (F) of 14.04.090, which identifies an exemption as "Removal of street trees from within the public right-of-way, which in the opinion of the director of public works or his or her designee, will or may cause damage to public improvements."

c) **No Impact.** No federally protected wetlands as defined by Section 404 of the Clean Water Act will be effected by implementation of the proposed project.

d) **Less Than Significant.** Open space areas within the proposed project area are highly fragmented by existing development. Prominent features that are expected to convey wildlife movement include drainages, in particular Amargosa Creek. Amargosa Creek follows the San Andreas Rift Zone to Palmdale where it turns to the north, essentially following State Highway 14, before draining into the Piute Ponds near Rosamond Lake. Amargosa Creek is severely fragmented by existing development in the City of Lancaster and the City of Palmdale and not expected to support regional wildlife movement. In addition, the foothills of the San Gabriel Mountains are expected to support regional wildlife movement east and west and generally to the south of the proposed project components.

Proposed pipelines are to be constructed mostly along city and county streets within the public ROW and in previously-disturbed areas. Existing conditions in the project area have minimized major wildlife movements in the area, and no major wildlife corridors have been recorded. Construction within Amargosa Creek would be temporary and in relatively short duration, and the creek bed and its features will be restored to previous conditions and in accordance with CDFG guidelines outlined in a SAA once construction is complete. Upon completion, pipelines will be underground and would not impede

wildlife movement. The pump station, and existing storage tanks to be refurbished are located in existing fenced-off facilities where no major wildlife movement occurs.

e) **Less Than Significant with Mitigation.** See Section (b) and **Mitigation Measure BIO-9** for a discussion of local plant ordinances that apply to the project. Phase 2 would not conflict with any other local policies or ordinances protecting biological resources.

f) **No Impact.** Improvements associated with Phase 2 would not occur in areas which fall under the jurisdiction of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved or proposed local, regional, or state habitat conservation plan.

No Action Alternative

Under the No Action Alternative, all project sites would remain unchanged, and no new development or improvements would occur. Implementing the No Action Alternative would eliminate all potential impacts to biological resources that would result from constructing the facilities associated with the proposed project.

References

California Department of Fish and Game, *Burrowing Owl Consortium: Survey Protocol and Mitigation Guidelines*. April 1993.

California Department of Fish and Game (CDFG 2010), California Natural Diversity Database. Records of Occurrence for Alpine Butte, Little Rock, Juniper Hills, Pacifico Mtn., Acton, Lancaster West, Lancaster East, Ritter Ridge, and Palmdale USGS quadrangle maps. Sacramento, CA: CDFG, Natural Heritage Division, 2010.

City of Palmdale, *Palmdale Native Desert Vegetation Ordinance* (No. 952, Section 2), 1992. Available online at http://www.cityofpalmdale.org/city_hall/codes/ Nativeplantordinance%20repaired.pdf.

City of Palmdale, *City of Palmdale General Plan*, January 25, 1993.

Environmental Science Associates (ESA), Final Program Environmental Impact Report for North Los Angeles/Kern County Regional Recycled Water Project. Prepared for Los Angeles County Waterworks district 40, Antelope Valley. November, 2008.

Environmental Science Associates (ESA), Biological Resources Technical Report for North Los Angeles/Kern County Regional Recycled Water Project Phase 2. Prepared for Los Angeles County Waterworks district 40, Antelope Valley. January, 2012.

Western Regional Climate Center (WRCC), Period of Record Monthly Climate Summary for Palmdale, California (046624), http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6624. Accessed September 27, 2010.

3.5 Cultural Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
5. CULTURAL RESOURCES — Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Discussion

a) **Less Than Significant.** A project specific Cultural Resources Study was prepared for the proposed project to identify any potential historical resources located within the project Area of Potential Effects (APE) and within a ½ mile of the proposed project vicinity (Bray, 2012). The study included a records search, Native American contact program, and field survey.

The cultural resources APE has been defined as all areas where potential Project-related ground disturbance may occur. The horizontal APE includes the construction footprint for activity related to all Phase 2 components, and the vertical APE is defined by the depth of excavation required during trenching for the installation of the pipeline and construction of the pump station and storage tank. While this may vary across the APE, it is estimated that in general the pump station building footprint is one and a half feet deep; the storage tank site is ten feet deep; the pipeline trench would be five to seven feet deep and four to five feet wide; and jack and bore pits would be up to 30 feet wide and between five to 20 feet deep.

A records search for the APE and ½-mile radius was conducted on July 1, 2010 at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton. The records search indicated that a total of 30 cultural resources have been previously recorded within ½ mile of the APE; two of these resources are located within the project APE. Resource P-19-180638 is a segment of the Southern Pacific Railroad and resource P-19-003705 is a 20th century debris scatter.

A Sacred Lands File (SLF) search for the Project was requested from the California Native American Heritage Commission (NAHC) on July 1, 2010. The SLF search failed to indicate the presence of Native American cultural resources within the APE. Follow-up correspondence was conducted with all individuals and groups indicated by the NAHC as having affiliation with the survey areas. To date, no responses have been received.

The previous study prepared for the North Los Angeles Kern County Regional Recycled Water Master Plan (Loftus and Turner, 2008) included an archaeological survey of 3.5 miles of the current APE, including the portion of the APE along Avenue M and Sierra Highway between Avenue M and Lockheed Way. Because this area had been so recently surveyed, it was not surveyed as part of the current field effort. Field survey of the remaining 5.25 linear mile APE was conducted on July 23, 2010. Additional site recording was performed on January 27, 2011. Areas that were not built-up or otherwise disturbed were subject to intensive pedestrian survey. The proposed pump station location at the Palmdale Water Reclamation Plant (PWRP) and proposed water tank location were subject to a reconnaissance level survey.

Four cultural resources were recorded within or immediately adjacent to the APE, and consist of three archaeological resources dating to the mid-20th century (designated P-19-003705, WW4, and WW5) and one historic built feature (P-19-180638, a segment of the Southern Pacific Railroad). All four resources are recommended not eligible for listing on the National Register of Historic Places (National Register) or California Register of Historical Resources (California Register).

Resource WW4 consists of the remains of a residential complex that was constructed around 1953 to 1959 and was occupied until at least 1979. The site also contains a historic debris scatter. Resource WW5 consists of the remains of a structure most likely constructed in the 1950s; although likely related to agriculture, its specific function is unknown. Resource P-19-003705 consists of an extensive but sparse scatter of historic-era trash. None of these three resources appear to meet the criteria for listing in the California Register or National Register. The resources are not known to be directly associated with events or people that have had a broad-reaching impact on the community at the local, state, or national level (Criteria A/1 and B/2). No historic data regarding the structures' functions, dates of construction, or ownership was found. Furthermore, the resources do not embody the characteristics of a distinctive type, period, or method of construction, or represent the work of a master (Criterion C/3). Finally, the underrepresentation of diagnostic artifacts limits the resources' potential to yield information important in history. They do not appear to have the potential to yield information important to an understanding of the history of the local area, the state, or the nation (Criterion D/4). Therefore, the resources do not appear to be eligible for the California Register or National Register and are not considered significant historical or unique archaeological resources under CEQA.

Impacts to historic resources associated with project implementation are less than significant.

In accordance with USEPA environmental cross-cutter procedure, a letter has been submitted to the State Historic Preservation Office (SHPO) requesting concurrence with a determination of no effect, pursuant to Section 106 of the National Historic Preservation

Act. A copy of this concurrence letter will be provided in **Appendix D**. A response from the SHPO is pending.

b) **Less Than Significant with Mitigation.** Three archaeological resources were **re**corded within the project area; as discussed above, the three resources are not considered historical or unique archaeological resources. Therefore, the project would have no significant impact on known archaeological resources.

The project could impact buried, currently unknown archaeological resources. The project area appears to have a low sensitivity for buried prehistoric archaeological resources. Of the 36 cultural resources recorded within ½ mile of the APE (including those resources newly recorded for this project), only three have prehistoric components: two resources are isolated prehistoric artifacts, and the third resource consists of a single prehistoric artifact within a historic-era archaeological site. Significant prehistoric archaeological resources in the vicinity of the proposed project tend to occur in close proximity to springs, watercourses, or other natural resources. The nearest significant watercourse to the APE would have been Amargosa Creek, which flowed north through the western portion of the APE. Amargosa Creek is now channelized and consists of a trapezoidal concrete channel surrounded by paved roads. Excavation for pipeline installation would primarily occur in fill soil surrounding the channel.

Aside from Amargosa Creek, the nearest permanent water source would most likely have been Barrel Springs or another spring located along the San Andreas Rift Zone, approximately 3-5 miles to the south. Given the dearth of permanent water sources, it is unlikely that large, permanent prehistoric settlements would have occurred within the APE.

Given the presence of the Southern Pacific Railroad, Sierra Highway, and other major transportation corridors that have been present since the late 19th and early 20th centuries, and the large number of historic-era archaeological sites that have been recorded within and near the APE, the APE should be considered sensitive for historic-era resources. However, such resources would likely be similar to the resources that were recorded during the current Project: non-significant early to mid-20th century surface debris scatters. Such sites would be unlikely to contain a buried component.

The Antelope Valley floor is covered in thick deposits of Quaternary alluvial sediments. These alluvial sediments are derived from nearby granitic mountains and have been deposited on the valley floor over the course of thousands of years. The younger Quaternary valley alluvial deposits, composed of weathered soil material and poorly sorted clay, silt, and sand, may be up to several hundred feet thick in valley areas, and thinner on slopes at the valley margins. Geologic maps show that the APE is underlain by late Pleistocene and Holocene alluvium. The precise thickness of the younger alluvial deposits within the APE is unknown.

In the Antelope Valley, the late Quaternary period was characterized by long periods of stable soil formation, punctuated by brief episodes of rapid alluvial. Because of this,

buried soil horizons are common within the Antelope Valley. Because the APE has been covered with Holocene alluvial deposits, which have been deposited over the course of known human occupation in the region, there is a possibility that this deposition of alluvium has buried archaeological sites that once existed on the surface.

Therefore, although overall there is a low probability of significant resources existing within the APE, the possibility that buried archaeological deposits may be encountered during project-related excavation cannot be discounted. In order to avoid unanticipated discovery of archaeological resources Mitigation Measures CULT -1 and CULT-2 are recommended to reduce impacts to cultural resources to less than significant.

Mitigation Measures

CULT -1: In the event that previously unknown cultural resources are uncovered during project implementation, all work shall cease in the vicinity of the find until it can be evaluated by a qualified archaeologist.

- If the resource is found to be a historical or unique archaeological resource as defined in PRC Section 21084.1 and 21083.2(g), respectively, impacts to the resource shall be avoided during project implementation. Consistent with Section 15126.4(b)(3), this may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement.
- If avoidance is not feasible, prior to issuing any grading or excavation permits and prior to any project-related ground disturbing activities, a detailed treatment plan shall be prepared and implemented by a qualified archaeologist in consultation with the County. Treatment of unique archaeological resources would follow the applicable requirements of Public Resources Code 21083.2. Treatment for most resources would consist of (but would not be not limited to) sample excavation, surface artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the significant resource to be impacted by the project. The treatment plan should include provisions for analysis of data in a regional context, reporting of results within a timely manner, curation of artifacts and data at an approved facility, and dissemination of reports to local and State repositories, libraries, and interested professionals.

CULT-2: Prior to the start of project-related ground disturbing activities, a worker training program shall be implemented by a qualified archaeologist. The program shall familiarize workers with the types of cultural resources that could be encountered during ground disturbance, and shall outline the procedures to be followed in the event of accidental discovery of cultural resources.

c) **Less Than Significant with Mitigation.** Fossil remains are considered unique and significant to the scientific community. If a paleontological resource is uncovered and inadvertently damaged, the impact to the resource could be substantial. Implementation of the proposed project could result in significant impacts to paleontological resources. The Final Program EIR determined there was a potential for the installation of pipelines and construction of the pump station and the storage tank facilities to potentially unearth, expose, or disturb paleontologic resources including fossil remains, localities, or known fossil-bearing geologic horizons. With implementation of **Mitigation Measure CULT -3** the proposed project would have less than significant impacts regarding the disturbance of paleontologic resources.

Mitigation Measure

CULT -3: LACWWD40 shall develop and implement a Paleontological Resource Monitoring and Mitigation Plan (PRMMP) prior to the onset of construction-related earth moving activities in order to either avoid or mitigate to a less-than-significant level the effects on paleontological resources. During earth-moving construction-related activities, additional previously-unknown fossil sites may be uncovered. The PRMMP must include mitigation protocol for discoveries as well. The PRMMP shall include provisions for the following: special consideration shall be made to collect sediment samples for potential fossiliferous locations as per the Society of Vertebrate Paleontology standards; stratigraphic cross-sections shall be recorded, mapping of the geologic units graphed, and fossil remains, cleaned, analyzed, and catalogued to be accepted for curation at a legal repository; all work must be conducted by a qualified Paleontologist and a final Report of Findings must be submitted upon completion of laboratory analysis.

d) **Less Than Significant with Mitigation.** As discussed in the Cultural Resources Report, no previously recorded human burial sites were identified within the APE as a result of the archival research or the archaeological reconnaissance survey. Because the proposed project would involve ground-disturbing activities, it is possible that such actions could unearth, expose, or disturb previously unknown human remains. With implementation of **Mitigation Measure CULT-4**, the proposed project would have less than significant impacts regarding the disturbance of human remains.

Mitigation Measures

CULT -4: If human remains are uncovered during project construction, the Project proponent shall immediately halt work, contact the County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.4 (e)(1) of the *CEQA Guidelines*. If the County Coroner determines that the remains are Native American, the Project proponent shall contact the NAHC, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted

cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.

No Action Alternative

Under the No Action Alternative, all project sites would remain unchanged, and no new development or improvements would occur. Implementing the No Action Alternative would eliminate all potential to cultural resources that would result from constructing the facilities associated with the proposed project.

References

Environmental Science Associates (ESA), Final Program Environmental Impact Report for North Los Angeles/Kern County Regional Recycled Water Project. Prepared for Los Angeles County Waterworks district 40, Antelope Valley. November, 2008.

Environmental Science Associates (ESA), Los Angeles County Waterworks District No. 40 Regional Recycled Water Project Phase 2 Cultural Resources Assessment, January 2012. (**Appendix C**)

3.6 Geology, Soils, and Seismicity

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
6. GEOLOGY, SOILS, AND SEISMICITY — 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.)	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☒	☐	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
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?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☒	☐	☐
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 wastewater?	☐	☐	☐	☒

Discussion

a.i) **Less Than Significant.** The Alquist-Priolo Earthquake Fault Zoning Act requires the delineation of zones along active faults in California. The purpose of the Alquist-Priolo Act is to regulate development and prohibit construction on or near active fault traces to reduce hazards associated with fault rupture. The Alquist-Priolo Earthquake Fault Zones are the regulatory zones that include surface traces of active faults. According to the Safety Element of the City of Palmdale's General Plan (City of Palmdale, 1993), the project site does not lie within a currently delineated Alquist-Priolo Earthquake Fault Zone (refer to Figure 3.5-2 in the Final PEIR). Therefore, the proposed project would not adversely affect people or structures due to rupture of a known fault. Impacts would be less than significant.

a.ii) **Less Than Significant.** The proposed project is located in a seismically active area, as is all of southern California, and has the potential to experience strong ground shaking. The nearest known active fault to the project site is the San Andreas Fault Zone, a "Type A"

fault, located approximately 2.1 miles southwest of the project site (CGS, 2008). A major earthquake associated with this fault could result in moderate to severe ground shaking in the project area and would be a potential hazard to the proposed project. Damage to water pipelines and aboveground structures associated with the proposed project could be expected as a result of ground shaking during a seismic event.

The California Building Code (CBC) (California Code of Regulations (CCR) Title 24) provides engineering design criteria for grading, foundations, retaining walls, and structures within zones of seismic activity. The procedures and design limitations for the design of infrastructure are based on site characteristics, configuration, structural system height, and seismic zoning. Seismic zones are mapped areas that are based on proximity to known active faults, the potential for future earthquakes, and intensity of seismic shaking. Seismic zones range from 0 to 4, with areas mapped as Zone 4 being potentially subject to the highest accelerations due to seismic shaking and the shortest recurrence levels. According to the CBC, all of Palmdale is within Seismic Zone 4. The proposed project would be designed to include all applicable CAL/OSHA standards and technical specifications required by the seismic safety codes of the CBC for Seismic Zone 4, in compliance with CCR Title 24, to minimize impacts due to seismic ground shaking. Impacts would be less than significant.

a.iii) **Less Than Significant with Mitigation.** Liquefaction is a phenomenon whereby unconsolidated and/or near saturated soils lose cohesion and behave as a fluid as a result of severe vibratory motion. The relatively rapid loss of soil shear strength during strong earthquake shaking results in the temporary fluid-like behavior of the soil. Soil liquefaction causes ground failure that can damage roads, pipelines, buildings with shallow foundations, and levees. Liquefaction can occur in areas characterized by water-saturated, cohesionless, granular materials at depths less than 40 feet. Saturated unconsolidated alluvium with earthquake intensities greater than Modified Mercalli Intensity (MMI) VII may be susceptible to liquefaction. This would include areas with shallow perched groundwater.

A review of the California Geological Survey (CGS) Seismic Hazard Zones Maps (CGS, 2003) indicates that the proposed pipeline is located within zones of potential liquefaction in Amargosa Creek (refer to Figure 3.5-3 in the Final PEIR). Adherence to the CBC code, as well as implementation of **Mitigation Measure GEO-1** would reduce any impacts regarding liquefaction to less than significant levels.

Mitigation Measure

GEO-1: Prior to approval of construction plans for the project, a design-level geotechnical investigation, including collection of site specific subsurface data shall be completed by LACWWD40. The geotechnical investigation shall identify density profiles, approximate maximum shallow groundwater levels, a characterization of the vertical and lateral extent of the saturated sand/silt layers that could undergo liquefaction during strong ground shaking, and development of

site-specific design criteria to mitigate potential risks. Recommendations made as a result of the investigation to protect new structures from seismic hazards shall become part of the proposed project

a.iv) **No Impact**. A landslide is a mass of rock, soil, and debris displaced down-slope by sliding, flowing, or falling. The susceptibility of land (slope) failure is dependent on the slope and geology as well as the amount of rainfall, excavation, or seismic activities. Factors that decrease resistance to movement in a slope include pore water pressure, material changes, and structure. Removing the lower portion (the toe) of a slope decreases or eliminates the support that opposes lateral motion in a slope. Shaking during an earthquake may lead materials in a slope to lose cohesion and collapse.

A review of the CGS Seismic Hazard Zones Maps (CGS, 2003) indicates that the project is not located in an area that is considered susceptible to an earthquake-induced landslide. Therefore, there would be no impact to project components due to landslides.

b) **Less Than Significant with Mitigation.** Project construction would result in land disturbance greater than one acre. During construction, excavation and grading activities would expose and disturb surface soils. Soils in the region are highly susceptible to water or wind erosion or both. Therefore, during project construction, short-term losses of topsoil and subsoil due to wind and water erosion could be substantial. Implementation of **Mitigation Measure GEO-2** would ensure water and wind erosion of soils would be minimized to less than significant levels.

Mitigation Measure

GEO-2: To control water and wind erosion during construction of the project, LACWWD40 shall prepare a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP shall prescribe temporary Best Management Practices (BMPs) to control wind and water erosion during and shortly after construction of the project and permanent BMPs to control erosion and sedimentation once construction is complete. The SWPPP would include soil erosion and sediment control measures that could include, but not be limited to, sediment barriers and traps, silt basins, and silt fences.

c) **No Impact.** The topography in the vicinity of the project components is generally flat; there are no potential non-seismic impacts related to landslides or liquefaction. Land subsidence and surface fissures can occur as a result of groundwater extraction. Underlying soils can compact when water is removed. Fissures can form when groundwater levels are lowered. The extraction of mineral or oil resources can also result in subsidence. Operation of the proposed project would not increase groundwater extraction and would not lower groundwater levels. The use of recycled water in the Antelope Valley would provide an offset to potable water demand that could reduce demand for groundwater extraction. In addition, the potential use of recycled water for groundwater recharge would prevent declines in groundwater levels. The proposed

project would not cause soils to become unstable or result in land subsidence or surface fissures. There would be no impact.

d) **Less Than Significant with Mitigation.** None of the soils in the project area are classified as expansive according to Table 18-1B of the Uniform Building Code. However, local areas with expansive soils could be encountered. **Mitigation Measure GEO-3** requires geologic investigations to be conducted for the specific locations for the proposed pipeline alignments prior to construction. The geologic investigation would include an assessment of the potential for site specific expansive soils. If expansive soils are found, recommendations made as part of the geological investigation would be incorporated into the project design. Implementation of **Mitigation Measure GEO-3** would reduce impacts to project facilities due to expansive soils to less than significant levels.

Mitigation Measure

GEO-3: Prior to approval of construction plans for the project, a design-level geotechnical investigation, including collection of site specific subsurface data shall be completed by LACWWD40. The investigation shall identify appropriate engineering considerations, as recommended by a certified engineering geologist or registered geotechnical engineer for planned facilities, including engineering considerations to mitigate the effects of expansive soils if found. Recommendations made as a result of the investigation to protect new structures from expansive soils shall become part of the proposed project.

e) **No Impact.** The proposed project would not involve the use of septic tanks or alternative wastewater disposal systems. There would be no impact.

No Action Alternative

Under the No Action Alternative, all project sites would remain unchanged, and no new development or improvements would occur. Implementing the No Action Alternative would eliminate all potential geologic and seismic risks that would result from constructing the facilities associated with the proposed project.

References

City of Palmdale. 1993. Safety Element of the City of Palmdale's General Plan.

California Geological Survey, California Department of Conservation, *Alquist Priolo Earthquake Fault Zones*, http://www.consrv.ca.gov/cgs/rghm/ap/Pages/affected.aspx, accessed December 2011.

California Geologic Survey (CGS), 2008. Seismic Hazards Zones Map. Palmdale, California, Quadrangle, Scale 1:24,000; Ritter Ridge, California, Quadrangle, Scale 1:24,000.

3.7 Greenhouse Gas Emissions

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
7. GREENHOUSE GAS EMISSIONS — Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion

a,b) **Less Than Significant.** In order to analyze air quality and greenhouse gas emissions, ESA prepared Urbemis 9.4, 2077 model runs that are included as Appendix A**.** Gases that trap heat in the atmosphere are called greenhouse gases (GHGs). The major concern is that increases in GHGs are causing global climate change. Global climate change is a change in the average weather on earth that can be measured by wind patterns, storms, precipitation and temperature. Although there is disagreement as to the speed of global warming and the extent of the impacts attributable to human activities, most agree that there is a direct link between increased emission of GHGs and long-term global temperature. What GHGs have in common is that they allow sunlight to enter the atmosphere, but trap a portion of the outward-bound infrared radiation and warm up the air. The process is similar to the effect greenhouses have in raising the internal temperature, hence the name GHGs. Both natural processes and human activities emit GHGs. The accumulation of GHGs in the atmosphere regulates the earth's temperature; however, emissions from human activities such as electricity generation and motor vehicle operations have elevated the concentration of GHGs in the atmosphere. This accumulation of GHGs has contributed to an increase in the temperature of the earth's atmosphere and contributed to global climate change.

GHGs include all of the following naturally-occurring and anthropogenic (man-made) gases: carbon dioxide (CO_2), methane (CH4), nitrous oxide (N_2O), sulfur hexafluoride, perfluorocarbons, hydrofluorocarbons, and nitrogen trifluoride (California Health and Safety Code §38505(g). CO_2 is the reference gas for climate change because it is the predominant GHG emitted. To account for the varying warming potential of different GHGs, GHG emissions are often quantified and reported as CO_2 equivalents (CO_2e). Large emission sources are reported in million metric tons of CO_2e ($MMTCO_2e$).

In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Schwarzenegger established Executive Order S-3-05, which sets forth a series of target dates by which statewide emission of GHG would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

In 2006, California passed the California Global Warming Solutions Act of 2006 (Assembly Bill No. 32; California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32), which requires CARB to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020 (representing an approximate 25 percent reduction in emissions).

On March 18, 2010, OPR submitted amendments to the state CEQA Guidelines for GHG emissions, as required by Public Resources Code section 21083.05 (Senate Bill 97). These CEQA Guideline amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in draft CEQA documents. The amendments are relatively modest changes to various portions of the existing CEQA Guidelines. Modifications address those issues where analysis of GHG emissions may differ in some respects from more traditional CEQA analysis.

The proposed project would contribute to global climate change as a result of emissions of GHGs, primarily CO_2, emitted during project construction and operation. As with other individual and relatively small projects, the specific emissions from the proposed project would not be expected to individually have an impact on Global Climate Change as explained below. Furthermore, GHG impacts are considered to be exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective. Thus, the proposed project analysis of GHG emissions is to determine whether the proposed project impact is cumulatively considerable.

Four types of analyses are used to determine whether the project could be cumulatively considerable and potentially conflict with the state goals for reducing GHG emissions. The analyses are as follows:

A. Any potential conflicts with the CARB's thirty-nine (39) recommended actions in California's AB 32 Climate Change Scoping Plan.

B. The relative size of the project. The project's GHG emissions will be compared to the size of major facilities that are required to report GHG emissions (25,000 metric tons/year of CO_2e) to the state. The project size will also be compared to the estimated GHG emissions for the California GHG emissions limit of 427 million metric tons per year of CO_2e emissions by 2020. In reaching its goals the CARB will focus upon the largest emitters of GHG emissions.

C. The basic energy efficiency parameters of a project to determine whether its design is inherently energy efficient.

D. Any potential conflicts with applicable policies, or regulations adopted for the purpose of reducing the emissions of GHGs.

With regard to Item A, the project does not pose any apparent conflict with the CARB recommended actions. The project would fall under recommended action W-2 Water Recycling (see Table 7-1 in **Appendix A**). In general, recommended action W-2 Water Recycling is estimated to have the potential to reduce GHG emissions by 0.3 million metric tons/year of CO_2e.

With regard to Item B, project GHG emissions during construction would be approximately 325, 810, and 489 metric tons of CO_2e in 2012, 2013, and 2014, respectively. Indirect operational emissions from electricity usage for the project would account for approximately 5,302 metric tons of CO_2e/year in year 2030, which is when the project's energy consumption is at its estimated peak. (Refer to **Appendix A** for GHG calculations.) The project would not be classified as a major source of greenhouse gas emissions (operational emissions of 5,302 metric tons/year CO_2e would be about 21 percent of the lower reporting limit, which is 25,000 metric tons/year of CO_2e). The proposed project's annual contribution during peak operation would be approximately 0.001 percent of California's 427 million metric tons of CO_2e/year emissions limit for the year 2020. The project would not generate sufficient emissions of GHGs to contribute considerably to the cumulative effects of GHG emissions such that it would impair the state's ability to implement AB 32.

With regard to Item C, the end uses for the recycled water would otherwise be met with imported potable water if the proposed project were not implemented. The imported water would be delivered through the SWP, which consumes a substantial amount of energy to convey water to southern California from the Sacramento-San Joaquin River Delta in northern California. A recent study by West Basin Municipal Water District has shown that the energy required to import SWP water is over six times the energy requirement for Title 22 recycled water when considering kilowatt-hours per acre-foot (LACSD, 2008). The study indicates that Title 22 recycled water produces 338 tons of CO_2 for every 1000 acre-feet (af) of water produced, while the SWP produces 2,250 tons of CO_2 for every 1000 af of water imported (LACSD, 2008; USEPA, 1995).[1] Thus, in comparison to the existing conditions at the project site where a portion of the water is imported through the SWP, implementation of the proposed project would result in an overall reduction in GHG emissions with the use of recycled water. By offsetting existing potable demands for non-potable uses and reducing the region's dependency on imported water, the GHG emissions associated with the transportation of imported water to the project site would be reduced. Therefore, the proposed project would be considered to be inherently energy efficient and would reduce the amount of CO_2 produced due to potable offset with recycled water.

[1] Conversion factor: kWh/1333.333 = tons CO_2. (USEPA, 1995)

Finally, with regard to Item D, the City of Palmdale has not established GHG reduction plans or policies. Therefore, the project would not conflict with any local regulations pertaining to GHGs.

In summary, the review of Items A, B, C and D, indicates that the GHG emissions associated with construction and operation of the project would not have a significant impact on the environment and would not conflict with the State's implementation of AB32 or other plans, policies, or regulations for the purposes of reducing GHG emissions. Impacts would be less than significant.

No Action Alternative

Under the No Action Alternative, all project sites would remain unchanged, and no new development or improvements would occur. GHG emissions would remain unchanged relative to existing conditions because demands for imported water would remain unchanged. Under the No Action Alternative there would be no GHG reductions due to the offset of potable water with recycled water.

References

Association of Environmental Professionals, Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents, 2007.

California Air Pollution Control Officers Association, CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act, 2008.

CARB, 2006. Public Workshop to Discuss Establishing the 1990 Emissions Level and the California 2020 Limit and Developing Regulations to Require Reporting of Greenhouse Gas Emissions.

County Sanitation District of Los Angeles County (LACSD), Memorandum to Stephen R. Maguin, Chief Engineer and General Manager from Earle Harling, Recycling Coordinator, regarding Comparative Energy Requirements for Local Water Supplies, March 5, 2008.

Office of Planning and Research (OPR), Amendments to the CEQA Guidelines for greenhouse gas emissions, April 2009.

Urbemis 2007 Version 9.2.4 Model Runs, December 2011 (**Appendix A**)

U.S. Environmental Protection Agency (USEPA), *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Source*, January 1995.

3.8 Hazards and Hazardous Materials

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
8. HAZARDS AND HAZARDOUS MATERIALS — Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☒	☒	☐
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?	☐	☒	☐	☐
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?	☐	☒	☐	☐
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?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐
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?	☐	☒	☐	☐

Discussion

a,b) **Less Than Significant with Mitigation.** Construction of the proposed project would require equipment that utilizes hazardous materials such as petroleum fuels and oil. During construction activities, such hazardous materials could accidentally be spilled or otherwise released into the environment exposing construction workers, the public and/or the environment to potentially hazardous conditions. Implementation of **Mitigation Measures HAZ-1** through **HAZ-6** would reduce potential impacts associated with accidental release of hazardous materials to less than significant levels.

Operation of the project would not require routine transport, use, or disposal of hazardous materials or create a significant hazard due to accidental release of hazardous materials into the environment.

Mitigation Measures

HAZ-1: LACWWD40 shall require the construction contractor(s) to implement best management practices (BMPs) for handling hazardous materials during the project. The use of the construction BMPs shall minimize negative effects on groundwater and soils, and will include, without limitation, the following:

- Follow manufacturers' recommendations and regulatory requirements for use, storage, and disposal of chemical products and hazardous materials used in construction.
- Avoid overtopping construction equipment fuel tanks.
- During routine maintenance of construction equipment, properly contain and remove grease and oils.
- Properly dispose of discarded containers of fuels and other chemicals.

HAZ-2: LACWWD40 shall require the construction contractor(s) to implement safety measures in accordance with General Industry Safety Orders for Spill and Overflow Control (CCR Title 8, Sections 5163-5167) to protect the project area from contamination due to accidental release of hazardous materials. The safety measures shall include, but not be limited to, the following:

- Spills and overflows of hazardous materials shall be neutralized and disposed of promptly.
- Hazardous materials shall be stored in containers that are chemically inert to and appropriate for the type and quantity of the hazardous substance.
- Containers shall not be stored where they are exposed to heat sufficient enough to rupture the containers or cause leakage.
- Specific information shall be provided regarding safe procedures and other precautions before cleaning or subsequent use or disposal of hazardous materials containers.

Disposal of all hazardous materials shall be in compliance with applicable California hazardous waste disposal laws. The construction contractor shall contact the local fire agency and the County Department of Public Health, Environmental Health Division, for any site-specific requirements regarding hazardous materials or hazardous waste containment or handling.

HAZ-3: In the event of an accidental release of hazardous materials during construction, containment and clean up shall occur in accordance with applicable regulatory requirements.

HAZ-4: Oil and other solvents used during maintenance of construction equipment shall be recycled or disposed of in accordance with applicable regulatory

requirements. All hazardous materials shall be transported, handled, and disposed of in accordance with applicable regulatory requirements.

HAZ-5: LACWWD40 shall require the construction contractor(s) to prepare a Site Safety Plan in accordance with applicable regulatory requirements.

HAZ-6: LACWWD40 shall require the construction contractor(s) to prepare and implement a Safety Program to ensure the health and safety of construction workers and the public during project construction. The Safety Program shall include an injury and illness prevention program, as site-specific safety plan, and information on the appropriate personal protective equipment to be used during construction.

c) **Less Than Significant with Mitigation.** There is one school located in the vicinity of the project site, Just Plane Kids is located at 2555 E. Ave P in Palmdale, directly adjacent to the pipeline. Construction of the proposed project would require the use of fuels, oils, and lubricants that can be hazardous to the environment. Since these schools are located within one-quarter mile of the project site, compliance with applicable state and federal regulations as well as the BMPs identified in **Mitigation Measure HAZ-1** through **HAZ-6** during construction would ensure that any potential risk due to hazardous emissions or release of hazardous materials would be reduced to less than significant levels.

d) **Less Than Significant with Mitigation.** Sites appearing on the Leaking Underground Storage Tank (LUST) database with cases remaining open or undefined represent potential sources of petroleum hydrocarbons and VOCs. Sites appearing on the Cleaners database represent potential sources of chlorinated solvents including perchloroethylene (PCE) and trichloroethylene (TCE). Sites appearing on the Solid Waste Landfill database represent potential sources of a variety of constituents including petroleum hydrocarbons, VOCs, chlorinated solvents, and metals. There are no sites identified on the California Department of Toxic Substance Control website that depicts potential sources of soil contamination that could be encountered during excavation. However, a review of the Envirostor database identified one site near the PWRP, Air Force Plant #42 in Palmdale. It is listed as an active state response site that is located on 5832 acres, between Palmdale and Lancaster. Implementation of **Mitigation Measure HAZ-7** would ensure that any risks involving hazardous materials sites would be reduced to less than significant levels.

Mitigation Measure

HAZ-7: In the event that evidence of potential soil contamination, including soil discoloration, noxious odors, debris, or buried storage containers are encountered during construction, LACWWD40 shall require the construction contractor(s) to have a contingency plan for sampling and analysis of potentially hazardous substances and coordination with the appropriate regulatory agencies, if necessary.

The required handling, storage, and disposal methods shall depend on the types and concentrations of chemicals identified in the soil. Any site investigations or remedial actions shall comply with applicable laws

e) **Less Than Significant with Mitigation.** The proposed project would be located within the Airport Influence Area for Palmdale Regional Airport (refer to Figure 3.8-5 in the Final PEIR). The proposed pipelines would cross two Accident Potential Zones at the end of the runways (refer to Figure 3.8-7 in the Final PEIR). The proposed project would not construct any wildlife hazard attractants that would jeopardize the safety of aircraft operations. However, construction of the proposed project along roadways near airport facilities could introduce safety hazards for both workers at the construction sites and at the airports. Coordination with airport agencies and staff would be required to ensure proper protections measures are integrated into a construction safety program and implemented by the construction contractor. Additional discussion regarding project compatibility with airport operations and pre-construction coordination with airport agencies, such as Los Angeles World Airports (LAWA), Caltrans, and the FAA, is presented in Section 3.10, Land Use and Planning.

Mitigation Measure

HAZ-8: LACWWD40 shall coordinate with appropriate agencies (such as LAWA and FAA) and staff to ensure a safety program is developed and implemented during construction of the proposed project.

f) **No Impact.** There are no private airstrips in the vicinity of the proposed project. Therefore, there would be no safety hazards to people working or residing in the project area.

g) **Less Than Significant with Mitigation.** Construction of the proposed project would require transportation of equipment and materials that could interfere with emergency response or evacuation plans. Roadways could be temporarily affected due to operation or storage of construction equipment and material deliveries, particularly during construction of the proposed pipeline. Project construction would not result in complete roadway closures but would result in lane closures, which would affect traffic flows. Implementation of a Traffic Control/Traffic Management Plan, as described in **Mitigation Measure TR-1** would ensure there would be no interference with emergency response and evacuation plans. The Traffic Control/Traffic Management Plan would ensure that all roads remain passable to emergency service vehicles at all times. No further mitigation measures are required.

Mitigation Measure

Implementation of **Mitigation Measure TR-1.**

h) **Less Than Significant with Mitigation.** The proposed project would be located in areas characterized by residential communities, agricultural operations, open space, and vacant

lands. These areas may be susceptible to wildland fires as construction of the proposed project requires equipment and activities that use petroleum fuels and oil and could result in accidental spills leading to fire-related hazards. Implementation of **Mitigation Measures HAZ-9** and **HAZ-10** would reduce all potential impacts to less than significant levels.

Mitigation Measures

HAZ-9: LACWWD40 shall require the construction contractor to coordinate with local fire agencies to develop a fire safety plan, which describes various potential scenarios and action plans in the event of a fire.

HAZ-10: During construction, all staging areas, welding areas, or areas slated for development using spark-producing equipment shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the recycled water backbone, contractors shall require all vehicles and crews working at the project site to have access to functional fire extinguishers at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks

No Action Alternative

Under the No Action Alternative, no hazardous materials would be used or transported within the project area, and no new hazardous wastes would be generated. In addition, under the No Action Alternative no new hazardous materials would be handled in the vicinity of an existing school; there would be no safety hazards for people in the vicinity of Palmdale Airport; there would be no potential interference with emergency evacuation plans; and there would be no potential impacts associated with wildland fires.

References

State of California, Department of Toxic Substance Control (DTSC). 2007. Available on-line at: http://www.envirostor.dtsc.ca.gov/public/map.asp?global_id=19970004 Accessed January 3, 2012.

3.9 Hydrology and Water Quality

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
9. HYDROLOGY AND WATER QUALITY — Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
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)?	☐	☒	☐	☐
c) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☒	☐	☐
d) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☒	☐	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☒	☐	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☒	☐	☐
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?	☐	☐	☐	☒
j) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion

a,f) **Less Than Significant with Mitigation.** Operation of the proposed recycled water pipelines could result in cross contamination of potable water pipelines, which could result in reduced water quality and potential public health concerns. Currently all areas considered for irrigation with recycled water are being irrigated with potable water and thus have potable water pipes tied into their irrigation systems. To avoid cross-contamination of potable water with recycled water, backflow prevention devices would be required in accordance with CCR Title 17, Group 4, Article 2, Protection of Water

System. Additionally, the Health and Safety Code, Division 104. Environmental Health Services, Part 12. Drinking Water, Chapter 5. Water Equipment and Control, Article 2. Cross Connection Control by Water Users, Section 116815 states: "All pipes installed above or below ground, on or after June 1, 1993, that are designed to carry recycled water, shall be colored purple or distinctively wrapped with purple tape."

In addition, minimum separation standards for potable and non-potable water pipelines are included in CCR Title 22, Division 4, Chapter 16, California Waterworks Standards, Article 4, Materials and Installations of Water Mains and Appurtenances. In accordance with Section 64572, Water Main Separation, all proposed recycled water pipelines would have at least a 10 foot horizontal separation and one (1) foot vertical separation from any parallel potable water mains. Incorporation of **Mitigation Measures HYDRO-1** through **HYDRO-5** would reduce any potential risks of water quality contamination to less than significant levels.

In addition, operation of the proposed project would be subject to conditions imposed by the Lahontan RWQCB pursuant to Water Recycling Requirements (WRRs) and Waste Discharge Requirements (WDRs). Recycled water use associated with the proposed project would comply with the California Department of Public Health (CDPH) recycled water regulations contained in Title 22 of the CCR. Recycled water provided by the PWRP would be treated to disinfected tertiary levels. As such, the product recycled water may be used for end use categories, including but not limited to the following M&I applications: landscape irrigation of parks, schools, golf courses, freeways, greenbelts, cemeteries, and landfills; landscape impoundments; fire suppression; city maintenance and street cleaning operations; culvert jetting; and construction applications, such as dust control.[2] The recycled water end uses identified for the proposed project are included in the Title 22 regulations (refer to Table 1-2 in the Final PEIR). To be used as a source supply for these designations, the reclaimed effluent would at all times be adequately oxidized, clarified, filtered, and disinfected effluent.

However, there is the concern for water quality impacts at the recycled water end user sites. Of particular concern is the impact to surface water and groundwater quality that could result due to the higher levels of TDS, nitrogen, and other nutrients in the recycled water relative to potable water. The over-application of recycled water would have the potential to affect surface water quality if this resulted in surface ponding or direct runoff to local creeks or other water bodies.

To address these water quality concerns SWRCB adopted a statewide general permit for landscape irrigation uses of recycled water, pursuant to AB 1481 in July 2009. The SWRCB has stated in its adopted Recycled Water Policy that the discharge of salts and nutrients to groundwater can be reasonably controlled by applying water at agronomic rates for recycled water landscape irrigation projects (SWRCB, 2009). Irrigation of

2 Municipal and industrial (M&I) end uses do not include residential land uses. This PEIR does not include coverage of residential landscape irrigation.

landscapes at agronomic rates also reduces impacts to surface waters by reducing the potential for ponding and recycled water runoff. This nutrient management practice would be sufficient to protect beneficial uses and water quality as prescribed in applicable basin plans, water quality control plans, and water quality control policies.

SWRCB also has stated that it is "unreasonable to require groundwater monitoring for landscape irrigation projects using recycled water because these project generally pose a threat to water quality similar to landscape irrigation projects using surface water or groundwater, for which groundwater monitoring is not required" (SWRCB, 2009).

SWRCB has acknowledged that use of recycled water for irrigation or other water supply augmentation can affect concentrations of salts and nutrients in groundwater basins, in excess of the water quality objectives established in Basin Plans. The regulation of recycled water itself is not adequate to address this issue; rather, SWRCB is encouraging every region in California to develop a salt/nutrient management plan by 2014. Because each groundwater basin or watershed is unique, the plan detail and complexity will depend on the extent of local salt and nutrient problems. Plan components include: basin-wide water quality monitoring; water recycling goals and objectives; salt and nutrient source identification; basin loading - assimilative capacity estimates; salt mitigation strategies; anti-degradation analysis; and emerging constituents consideration. This policy was approved in May 2009, and the proposed project would be subject to all requirements of the policy, including salt management plans **(Mitigation Measure HYDRO-6**).

Recycled water contains nitrogen, phosphorus, and potassium. Nutrients in the recycled water applied to landscapes are taken up by vegetation, reducing the need for fertilizer applications. Reduction of fertilizer applications by proposed M&I end users would reduce total nutrient load applied to irrigation sites that potentially could end up in surface runoff or affect underlying groundwater.

Implementation of **Mitigation Measure HYDRO-7** would reduce potential impacts to surface water quality and groundwater quality to less than significant levels. Mitigation Measure HYDRO-7 requires M&I end users to apply water and fertilizer to landscapes at agronomic rates, which is compatible with good farming practices on land. The mechanism for implementing these practices is a Reclaimed Water User Agreement, which would be made between the implementing agency and recycled water end user.

Mitigation Measures

HYDRO-1: Applicable backflow prevention devices, as outlined in Title 17 shall be incorporated into pipeline design to avoid potential for cross contamination.

HYDRO-2: Applicable minimum pipeline separation standards for potable and non-potable water pipelines, as outlined in Title 22, shall be incorporated into pipeline design to avoid potential for cross contamination.

HYDRO-3: All recycled water pipelines shall be painted purple or marked distinctly with purple tape.

HYDRO-4: Los Angeles County Department of Public Health (DPH), Cross Connection Control Program for Los Angeles County, shall be advised of each new site where recycled water is to be used prior to placing the site into service.

HYDRO-5: All recycled water sites shall be inspected and tested for possible cross connections with the potable water system, in accordance with Sections 60314(3) and 60316(a), Title 22, California Code of Regulations.

HYDRO-6: LACWWD40, in consultation with the Lahontan RWQCB, shall develop and implement a salt management plan, if needed in the future, to reduce the potential for salt and nutrient loading and minimize impacts to water quality in the Antelope Valley Groundwater Basin.

HYDRO-7: LACWWD40 shall require the development and implementation of Recycled Water User Agreements with each recycled water end user. The Agreements shall include provisions that prohibit over-application of recycled water and fertilizer, such as requiring irrigation at agronomic rates to reduce the potential for runoff and increased nutrients into the groundwater basin.

b) **Less Than Significant with Mitigation.** The proposed project would replace potable water with recycled water for certain end uses, thereby reducing existing and future demand for potable water. Operation of the proposed project would result in a direct net increase in aquifer volume due to the proposed groundwater recharge end use. Operation of the proposed project would have no adverse impacts on groundwater supplies or aquifer volume.

Construction of the recycled water pipelines, including trenching, jack and bore tunneling and horizontal directional drilling techniques, could potentially meet shallow or perched groundwater. Groundwater levels and the depth of excavation vary throughout the proposed project area. If shallow groundwater is met, dewatering would be required. Dewatering operations would include pumping the groundwater and discharging to the local storm drain system. Discharge water could potentially degrade surface water quality with materials used during typical construction activities, such as silt, fuel, grease or other chemicals. This could be a potentially significant impact; however, impacts would be temporary. Implementation of **Mitigation Measure HYDRO-8** would reduce the impact of construction dewatering to surface water quality to less than significant levels.

Mitigation Measure

HYDRO-8: LACWWD40 shall obtain and comply with the requirements of dewatering permits issued by the Lahontan RWQCB for dewatering activities. Provisions of the permit may include treatment of flows prior to discharge

c) **Less Than Significant with Mitigation.** During construction of the proposed project, excavated soils would have the potential to erode and be transported to down gradient areas, potentially resulting in water quality standard violations. Construction of pipelines would require excavation of trenches or temporary bore and receiving pits, and temporary stockpiling of soils. In the event of heavy rain, erosion of the stockpiles may occur resulting in scouring and sedimentation of local drainages, particularly during construction of the Amargosa Reach of the recycled water pipeline within Amargosa Creek. Additionally, the storm water passing through the construction sites has the potential to pick up any chemicals from the staging site itself (such as fuels or oil from construction equipment), which may pass into the local storm water collection system, impacting water quality.

The U.S. Army Corp of Engineers has determined that Amargosa Creek is not defined as a water of the United States because it flows to a closed internal dry lake basin (Rosamond Dry Lake), which is wholly within the State of California. For similar reasons, the Lahontan RWQCB has determined that other dry washes in the Antelope Valley (e.g., Big Rock Creek and Little Rock Creek) are not defined as water of the U.S. (Lahontan RWQCB, 2004). Therefore, discharges resulting from the proposed project would not be subject to regulation under the NPDES program and would not be required to file a Notice of Intent to comply with the State's General Construction Stormwater NPDES permit or prepare a Storm Water Pollution Prevention Plan (SWPPP). However, the Lahontan RWQCB encourages implementation of best management practices (BMPs) similar to those required for NPDES storm water permits to protect waters of the state (Lahontan RWQCB, 2004) and to protect the water quality objectives and beneficial uses of local surface waters as provided in the Lahontan Region Water Quality Control Plan (Basin Plan) (RWQCB, 1995). Applicable BMPs are identified in the California Stormwater Quality Association's *California Storm Water Best Management Practices Handbook for Construction* (2009). **Mitigation Measure HYDRO-9** below would require that LACWWD40 prepare BMPs to be implemented to ensure pipeline construction activities would not degrade surface or groundwater quality.

Erosion control is a necessary to prevent sediment transport to the storm drain system. Erosion control BMPs bind soil particles to protect the soil surface and may include, but would not be limited to scheduling or limiting activities to certain times of the year and preservation of existing vegetation and ground cover.

Sediment controls complement the erosion control measures to further reduce sediment transport to the storm drain system through physical interception or settlement of the sediment being transported by storm water runoff. Typical BMPs include, but would not be limited to, installation of silt fence or fiber in areas subject to substantial erosion.

Tracking control is necessary to reduce sediment from being transported off the site from construction equipment itself, and onto private/public roads. BMPs for tracking control may include stabilizing entrances to the construction sites and adjacent roadways.

To prevent soil and dust from being transported off site by wind, additional erosion control measures include application of potable water to disturbed soil areas to control dust and maintain optimum moisture levels for compaction, and use of silt fences and plastic covers to prevent wind dispersal from soil stockpiles

Mitigation Measures

HYDRO-9: LACWWD40 shall develop and implement a SWPPP using BMPs to minimize erosion and sedimentation. LACWWD40 shall include in contractor specifications that the contractor is responsible for developing the SWPPP. The SWPPP shall be maintained at the site for the entire duration of construction.

The objectives of the SWPPP are to identify pollutant sources that may affect the quality of storm water discharge and to implement BMPs to reduce pollutants in storm water discharges. The SWPPP for the proposed project shall include, but not be limited to, the implementation of the following elements:

- Identification of all pollutant sources, including sources of sediment that may affect the quality of storm water discharges associated with construction activity from the construction site;
- Identification of non-storm water discharges;
- Estimate of the construction area and impervious surface area;
- Preparation of a site map and maintenance schedule for BMPs installed during construction designed to reduce or eliminate pollutants after construction is completed (post-construction BMPs);
- Identification of all applicable erosion and sedimentation control measures, waste management practices, and spill prevention and control measures;
- Maintenance and training practices; and,
- A sampling and analysis strategy and sampling schedule for discharges from construction activities

d) **Less Than Significant with Mitigation.** Construction of the Amargosa Reach of the proposed recycled water pipeline would be within the stream bed of Amargosa Creek. The pipeline would cross the Amargosa streambed using either trenching or jack and bore construction methods approximately 300 feet north of a concrete encasement. Construction activities associated with the pipeline temporarily affect drainage within the streambed and would require a Streambed Alteration Agreement (SAA) from the California Department of Fish and Game (CDFG). Implementation of **Mitigation Measure HYDRO-10** will require compliance with the SAA. LACWWD40 has consulted with CDFG regarding potential impacts of the project, particularly in the vicinity of Amargosa Creek. CDFG has assisted with the selection of the proposed creek crossing location to minimize potential impacts to biological resources. LACWWD40 has

submitted the SAA application to CDFG. The Draft SAA is pending as of the publication of this IS/MND/EA.

Operation of the proposed recycled water pipelines is not expected to substantially alter existing drainage patterns within the project area following completion of construction activities. The portion of the Amargosa Reach of the recycled water pipeline that would be constructed below ground within the stream bed of Amargosa Creek would be restored to preconstruction conditions; thus the proposed project would not permanently alter the drainage pattern of any stream or river. The remaining recycled water pipelines would be installed within existing roadway rights-of-way, and after construction is concluded, roadways would be restored to existing conditions as well. **Mitigation Measure HYDRO-11** would ensure that no new permanent impervious surfaces are created by the recycled water pipelines that could alter drainage patterns and potentially result in localized flooding impacts.

The proposed pump station at the PWRP would result in an increase of impervious surfaces at the PWRP by approximately 1,200 square feet. The proposed storage tank will result in the increase of impervious surfaces at the site by approximately 370 square feet. Additionally, the development of the pump station would be located within a previously disturbed area at the PWRP. Therefore, due to the limited development areas and the previously disturbed nature of the site, development of the pump station would not result in a significant increase in runoff from the site and would not likely result in localized flood impacts. Nonetheless, implementation of **Mitigation Measure HYDRO-12** would ensure adequate design features are incorporated to reduce and capture storm water runoff. Design features could either capture and infiltrate storm water onsite or transport storm water offsite.

Mitigation Measures

HYDRO-10: Prior to the commencement of grading or construction activities onsite, LACWWD40 shall obtain and comply with a California Department of Fish & Game, Streambed Alteration Agreement in accordance with Sections 1600-1616 of the California Fish & Game Code, as required.

HYDRO-11: LACWWD40 shall include in contractor specifications that all disturbed areas are to be restored back to pre-construction conditions.

HYDRO-12: LACWWD40 shall ensure adequately sized and located storm water capture facilities are incorporated into the final design for the storage tank and pump station facilities. Design features would either capture and infiltrate storm water onsite or transport storm water offsite.

e) **No Impact.** The proposed project would provide recycled water to M&I end users instead of potable water. As such, recycled water would be applied as a beneficial use for

irrigation instead of potable water. This potable offset would not result in an increase in runoff and would not affect storm drain capacity. There would be no impact.

g) **No Impact**. The proposed project does not involve housing. Therefore, no housing would be placed within a 100-year flood hazard area. No impacts would occur.

h) **Less Than Significant with Mitigation.** The Flood Insurance Rate Maps (FIRMs) produced by the Federal Emergency Management Agency indicate areas prone to flood hazards due to major storm events, including 100-year and 500-year flood zones. According to the FIRMs, the proposed project would place portions of the recycled water pipeline within the 100-year flood zone associated with Amargosa Creek (Los Angeles County, 2007) (See Figure 3.7-4 in the PEIR). The proposed pump station would be located at the PWRP, which is in a designated Flood Zone B. Zone B is a zone between 100-year and 500-year flood zone limits.

The recycled water pipelines would be below ground and therefore would not introduce new aboveground structures that would impede or redirect flood flows. There would be no impact. The proposed pump station at the PWRP would introduce a new structure within a 100-year to 500-year flood zone. These facilities and the storage reservoir would be developed in accordance with the applicable municipal codes[3] regarding construction in flood zones. It is expected that LACWWD 40, or its partner agencies, would be required to obtain a development permit for any above-ground reservoirs prior to construction within any special flood hazard areas. With adherence to the permit requirements, the proposed facilities would not expose people or structures to the risk of loss due to flooding. In addition, implementation of **Mitigation Measure HYDRO-13** would reduce impacts to people and structures due to flooding to less than significant levels.

Mitigation Measure

HYDRO-13: LACWWD40 shall require flood diversion facilities to be incorporated into the storage tank and pump station site and facility design that would not increase flood risk in other areas.

i) **No Impact.** The proposed project would not expose people or structures to a significant risk of loss, injury, or death involving flooding due to failure of a levee or dam. The proposed project is not located near a levee or dam; the proposed project would not involve construction or other activities that would alter the stability of any levee or dam, or any other flood control structure. There would be no impact.

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3 Applicable Municipal Codes: City of Palmdale's § 15.28.130(A) Standards for utilities. All new and replacement water supply and sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and to eliminate discharge from the systems into floodwaters; and the 2008 Los Angeles County Building Code (Title 216).

j) **No Impact.** The proposed project site is approximately 40 miles from the Pacific Ocean. The proposed project would not expose people or structures to a significant risk of loss, injury, or death due to seiches or tsunamis. The proposed project would be located primarily in areas characterized by flat topography except for possible low-lying hillside locations for proposed storage reservoirs. It is anticipated that the proposed project would not expose people or structures to a significant risk of loss, injury, or death due to mudflows.

No Action Alternative

Under the No Action Alternative, all project sites would remain unchanged, and no new development or improvements would occur. Under the No Action Alternative, any environmental impacts that would result due to the proposed project would be avoided. There would be no impacts to surface water or groundwater quality or to groundwater levels in the project vicinity

References

State of California, State Water Resources Control Board (SWRCB). 2009. Available on-line at: http://www.swrcb.ca.gov/water_issues/programs/water_recycling_policy/ Accessed February 22, 2012.

3.10 Land Use and Land Use Planning

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
10. LAND USE AND LAND USE PLANNING — Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☒	☐	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion

a) **No Impact.** The pipelines would be entirely underground with some above-ground appurtenances and would not create a barrier or physically divide an established community. The pump station would be located within an existing industrial facility and the recycled water storage tank would be adjacent to an existing storage tank. As a result, the project would not divide an established community. There would be no impact.

b) **Less Than Significant with Mitigation.** The ALUC has identified the Airport Influence Area (AIA) for each public use airport in Los Angeles County. The AIA is the geographic area that could be affected by present or forecasted aircraft operations and the area in which new land uses or changes in land uses could cause adverse effects to flight operations and safety. As shown in Figure 3.8-5, the pipelines located along the Sierra Highway and Avenue P and the pump station are located in the Palmdale Regional Airport (PMD) Airport Influence Area.

Additionally, the Air Installation Compatible Use Zone (AICUZ) Study provides extensive analysis on the effects of aircraft noise, aircraft accident potential, and land use development upon present and future land uses in the vicinity of PMD. The AICUZ identifies military clear zones (CZs) and accident potential zones (APZs) for runways 7/25 and 4/22. The CZ, which is located at each runway end, represents the area at the highest risk of experiencing aircraft accidents. As shown in Figure 3.8-7 of the PEIR, pipelines located along the Sierra Highway and Avenue P are also located very near to Clear Zones associated with PMD. The potential short-term impacts associated with the construction of the proposed pipeline would be potentially significant due to their close proximity to this airport. The presence of construction equipment, particularly cranes and lights, could pose hazards to aircraft operations.

To prevent potential intrusions to navigable airspace, the implementing agency would notify the airport of proposed construction activities in advance and work with the airport to complete project review through the FAA's 7460 airspace review process, which would ensure that construction equipment, such as cranes and flashing lights, would not pose hazards to aviation. In addition to FAA airspace review, ongoing coordination with the airport would be required to ensure that proposed construction activities do not disrupt airport operations and to ensure that appropriate notice is provided to aviators using the airport. Portions of the Phase 2 pipeline construction would occur on federally obligated property associated with PMD and Los Angeles Worlds Airports (LAWA) (see Figure 3.8-5 of the PEIR). Although it is anticipated that construction would occur within the ROW for jurisdictions owning the roads intersecting these properties, the LACWWD40 must coordinate construction schedules with airport staff to minimize effects to airport operations.

Construction activities can pose threats to aviation through the inadvertent creation of habitat, open water, or food sources for potentially hazardous wildlife. For example, the use of temporary or permanent sediment traps, the use of soil-stabilization mixtures that include grains or other food sources, or the use of landscaping materials that provide opportunities for nesting or loafing can attract birds and other wildlife that pose hazards to aircraft.

Implementation of the following **Mitigation Measures LU-1** through **LU-4** would minimize these potential effects associated with construction of the proposed pipeline.

Mitigation Measures

LU-1: For project pipelines located along the Sierra Highway and Avenue P and the pump station occurring within an Airport Influence Area (AIA), LACWWD40 shall submit their proposed project plans to the Los Angeles County ALUC for review and comment prior to final design.

LU-2: Prior to conducting construction activities within an AIA, for the project pipelines located along the Sierra Highway and Avenue P and the pump station, LACWWD40 shall prepare an airport construction safety plan that would identify best management practices. The plan would include, at a minimum, construction timeframes and hours, lighting and flagging requirements, air traffic control communication requirements, access and egress restrictions, equipment staging area requirements, and personal safety equipment requirements for construction workers, and appropriate notification to aviators. The plan would be reviewed and approved by airport staff and implemented by both the airport and project construction staff.

LU-3: Prior to final design of project pipelines located along the Sierra Highway and Avenue P and the pump station within an AIA, LACWWD40 shall identify the ground elevation associated with each project component and submit their project

plans to airport staff for review and comment. Working with airport staff, LACWWD40 shall submit their design plans for airspace analysis (FAA Part 7460 review) to determine whether any of the proposed project components or proposed construction equipment would protrude into protected airspace. If such objects are identified, LACWWD40, airport staff, and FAA will identify appropriate steps to adjust project plans or include appropriate markings to identify hazards to aviators pursuant to FAA Part 7460.

LU-4: To prevent the creation of wildlife attractants, LACWWD40 shall coordinate with construction contractors to ensure that neither project design nor construction plans create temporary or permanent sources of open water, inappropriate seed mixtures, or inappropriate landscaping designs. Notes shall be incorporated on construction plans to warn against the creation of potential wildlife hazards

c) **No Impact.** Improvements associated with Phase 2 do not occur in areas which fall under the jurisdiction of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved or proposed local, regional, or state habitat conservation plan.

No Action Alternative

Under the No Action Alternative, all project sites would remain unchanged, and no new development or improvements would occur. The No Action Alternative would not divide an established community and would not conflict with any land use plans.

3.11 Mineral Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
11. MINERAL RESOURCES — 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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion

a,b) **No Impact.** The California Department of Conservation, California Geological Survey (CGS) classifies the regional significance of mineral resources in accordance with the California Surface Mining and Reclamation Act of 1975 (SMARA). CGS designates Mineral Resource Zones (MRZs) that have regionally significant mineral deposits. The proposed project is not located within any designated MRZs (Los Angeles County, 2007; LACSD, 2005). The closest MRZ to the project area is the Little Rock Creek Fan located at the southeast edge of the City of Palmdale. The proposed project would have no impact on mineral resources.

No Action Alternative

Under the No Action Alternative, all project sites would remain unchanged, and no new development or improvements would occur. The No Action Alternative would result in no impacts to mineral resources

References

Sanitation Districts of Los Angeles County (LACSD), *Palmdale Water Reclamation Plant 2025 Facilities Plan & Final EIR*, September 2005.

Los Angeles County Department of Regional Planning, *Draft Preliminary General Plan*, Open Space & Conservation Element, June 28, 2007. Available online: http://planning.lacounty.gov/spGPMain.htm.

3.12 Noise

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
12. NOISE — Would the project:				
a) Result in Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Result in Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) Result in A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) Result in A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	☐	☐	☐	☒
f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion

a,d) **Less Than Significant with Mitigation.** The City of Palmdale Municipal Code limits the hours of construction to within the hours of 6:30 a.m. and 8:00 p.m. unless the work is made in response to an emergency or special purpose. (Palmdale Municipal Code Section 8.28 Building Construction Hours and Operation and Noise Control)

The City of Palmdale General Plan Noise Element states that when proposed stationary noise sources could exceed an exterior noise level of 65 dBA CNEL, or could impact future noise sensitive land uses, the proposed noise source will require the preparation of an acoustical analysis. The acoustical analysis will include mitigation measures to reduce noise levels to 65 dBA CNEL or less exterior and 45 dBA CNEL interior. If the noise level cannot be reduced to these thresholds through mitigation, the new noise source should not be permitted. (General Plan Policy N1.1.3) The General Plan also states that construction hours should be restricted during the evening, early morning and Sundays. (General Plan Policy N1.2.2)

Operational Noise

The proposed project could result in a permanent increase in ambient noise levels due to operation of the pump station at the PWRP. However, there are no noise-sensitive land uses in the vicinity of the PWRP. The proposed project would not conflict with the noise standards established in the City of Palmdale General Plan Noise Element.

Construction Noise

A temporary increase in ambient noise levels would result from project construction activities. Total project construction is anticipated to occur for approximately 24 months, starting in November 2012 and ending in October 2014. Pipeline installation would be ongoing for the duration of construction. The construction of the pump station would take approximately nine months and the construction of the storage tank would take approximately six months.

Construction activity noise levels at and near the construction areas would fluctuate depending on the particular type, number, and duration of uses of various pieces of construction equipment. Construction-related material haul trips would raise ambient noise levels along haul routes, depending on the number of haul trips made and types of vehicles used. In addition, certain types of construction equipment generate impulsive noises (such as pile driving), which can be particularly annoying. Pile driving, however, is not proposed for the proposed project development. **Table 3-2** shows typical noise levels during different construction stages. **Table 3-3** shows typical noise levels produced by various types of construction equipment.

TABLE 3-2
TYPICAL NOISE LEVELS FROM CONSTRUCTION PHASES

Construction Phase	Noise Level[a] (dBA, Leq at 50 Feet)
Ground clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	89

a Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase.

SOURCE: Bolt, Baranek, and Newman, 1971; Cunniff, 1977.

Construction during the proposed project would generate a significant amount of noise corresponding to the noise generating equipment used. Noise from construction activities generally attenuates at a rate of 4.5 to 7.5 dBA per doubling of distance, for this analysis a rate of 6 dBA was used. Some land uses are considered more sensitive to noise than others due to the amount of noise exposure and the types of activities typically involved.

Pipelines

The nearest sensitive receptors to pipeline construction are single family residences on Avenue O at approximately 70 feet. Construction noise at the nearest receptor would be approximately 86 dBA Leq. Other sensitive receptors located further away from construction, including Just Plane Kids School on Avenue P, would be exposed to

TABLE 3-3
TYPICAL NOISE LEVELS FROM CONSTRUCTION EQUIPMENT

Construction Equipment	Noise Level[a] (dBA, Leq at 50 Feet)
Dump truck	88
Portable air compressor	81
Concrete mixer (truck)	85
Scraper	88
Jackhammer	88
Dozer	87
Paver	89
Generator	76
Backhoe	85
Rock Drilling	98

a Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase.

SOURCE: Bolt, Baranek, and Newman, 1971; Cunniff, 1977.

construction noise at incrementally lower levels. Pipeline construction would move at a rate of 50 to 100 feet a day; therefore, individual sensitive receptors would be exposed to substantial noise for no more than three to five days.

Storage Tank

The nearest sensitive receptors to storage tank construction are the single family residences east of the storage tank at approximately 585 feet. Construction noise at the nearest receptor would be approximately 68 dBA Leq. Other sensitive receptors located further away from construction would be exposed to construction noise at incrementally lower levels.

Pump Station

The nearest sensitive receptor to Pump Station construction is the Just Plane Kids School, located approximately 2,910 feet away on Avenue P. Construction noise at the nearest receptor would be approximately 54 dBA Leq. Other sensitive receptors located further away from construction would be exposed to construction noise at incrementally lower levels.

Daytime construction noise is exempt from maximum noise thresholds. Therefore, daytime construction noise would not violate the City of Palmdale's noise ordinance. However, construction noise at sensitive receptors in the vicinity of the recycled water pipeline and storage tank could experience noise levels that exceed the City of Palmdale's exterior noise threshold of 65 dBA for stationary sources. Implementation of **Mitigation Measures NOISE-1, NOISE-2,** and **NOISE-3** would ensure construction activities are restricted to daytime hours and would minimize the effects of construction noise on sensitive receptors during construction. With implementation of these mitigation

measures, the proposed project would not result in the exposure of persons to or generation of noise levels in excess of standards established in the general plan or noise ordinance. Impacts would be less than significant with mitigation.

Mitigation Measures

NOISE-1: LACWWD40 shall require its construction contractors to comply with the construction hours and days limitations established in local noise ordinances. Night-time construction would require approval from the City of Palmdale.

NOISE-2: During construction of the proposed recycled water pipeline and storage tank, LACWWD40 shall require its construction contractors to implement procedures to reduce noise generated from project construction activities. Typical noise control procedures include the following:

- Require all construction contractors to locate fixed construction equipment (e.g., compressors and generators) as far as possible from noise-sensitive receptors.
- Equipment used in the construction of individual project components shall be muffled and maintained in good operating condition. Internal combustion engine-driven equipment shall be fitted with intake and exhaust mufflers that are in good condition.
- Additional noise attenuating measures include changing the location of stationary construction equipment and/or staging areas; notifying adjacent residences and nearby sensitive receptors in advance of construction work; shutting off idling equipment; rescheduling construction activities; requiring on-going construction noise monitoring to assure adherence to City/County construction equipment standards; and/or installing temporary barriers around stationary construction noise sources.

NOISE-3: To further address the nuisance noise impact of project construction, construction contractors shall implement the following:

- Signs shall be posted at the construction site that include permitted construction days and hours, a day and evening contact number for the job site, and a contact number for the applicable jurisdiction agency in the event of problems.
- An onsite complaint and enforcement manager shall track and respond to noise complaints.

b) **Less Than Significant.** Vibration associated with noise, which takes the form of oscillatory motion, can be described in terms of acceleration, velocity, and displacement. There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean

square (RMS) amplitude is most frequently used to describe the affect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. The Federal Transit Administration's (FTA) threshold for architectural damage to conventional sensitive structures is 0.2 in/sec PPV, and the FTA threshold for human annoyance due to ground-borne vibration is 80 RMS (FTA, 2006). Project construction would employ conventional activities. **Table 3-4** shows typical vibration velocities for equipment/techniques to be used during project construction. At a distance of 50 feet, ground-borne vibration would not exceed thresholds for architectural damage or human annoyance. All sensitive receptors are at least 50 feet from the proposed construction areas. Therefore, impacts would be less than significant.

TABLE 3-4
VIBRATION VELOCITIES FOR CONSTRUCTION EQUIPMENT

Equipment Activity	PPV at 50 Feet (inches/second)[a]	RMS at 50 Feet (VDB)[b]
Large Bulldozer	0.03	78
Loaded Trucks	0.03	77
Caisson Drilling	0.03	78
Jackhammer	0.01	70

a. Buildings can be exposed to ground-borne vibration levels of 0.2 PPV without experiencing structural damage.
b. The human annoyance response level is 80 RMS.

SOURCE: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.

c) **Less Than Significant.** Operation of the pump station could increase ambient noise levels in the project vicinity. The proposed pump station would be enclosed and located onsite at the PWRP, which is not in close proximity to any sensitive receptors or noise-sensitive land uses. Noise levels in the vicinity of the PWRP would not change substantially from existing uses. Impacts would be less than significant.

e,f) **No Impact.** The project would be adjacent to PMD and Air Force Plant 42. However, while there are airports within two miles the project, the project itself would not include the development or introduction of noise sensitive land uses, and for this reason, would not expose persons to excessive aircraft or airport noise levels. No impacts would occur, and no mitigation measures are required.

No Action Alternative

Under the No Action Alternative, all project sites would remain unchanged, and no new development or improvements would occur. The No Action Alternative would result in no noise impacts.

References

Bolt, Baranek, and Newman, *Noise From Construction Equipment and operations, Building Equipment, and Home Appliances,*1971

Cunniff, *Environmental Noise Pollution*, 1977.

City of Palmdale, General Plan Noise Element, January 1993

City of Palmdale, Municipal Code, current through January 2012

Federal Transit Administration (FTA). 2006. *Transit Noise and Vibration Impact Assessment*, May 2006.

3.13 Population and Housing

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
13. POPULATION AND HOUSING — 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)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
d) Affect the health or environment of minority of low income populations disproportionately?	☐	☐	☒	☐

Discussion

a) **Less Than Significant.** A project can have direct and/or indirect growth inducement potential. Direct growth would result if a project involved construction of new housing. A project can have indirect growth inducement if it would establish substantial new permanent employment opportunities (e.g., commercial, industrial or governmental enterprises) or if it would involve a substantial construction effort with substantial short-term employment opportunities and indirectly stimulate the need for additional housing and services to support the new employment demand. A project would also have an indirect growth inducement effect if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service.

The proposed project would be limited to the provision of water supply infrastructure. There is no housing or commercial development that would directly affect the number of residents or employees in the project area. The proposed project would not directly contribute to the creation of additional housing or jobs within the Antelope Valley. Therefore, proposed project would not directly induce population growth.

To determine indirect growth inducement potential, the proposed project was reviewed to ascertain whether it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. The proposed project would reduce the area's existing and future demand for imported water through recycling. The imported water conserved through implementation of the proposed project would be available to serve potable water demands of planned growth. As stated in the PEIR (page 5-5), the Antelope Valley Integrated Regional Watershed Management Plan expects population to increase by 245 percent of year 2000 levels by the year 2030. The Antelope Valley Regional Urban Water Management Plan (RUWMP) acknowledges the region's growth predictions and accounts for the water demand in its regional future demand

projections. The Antelope Valley RUWMP projects that eight percent of the water demand in 2030 would be met with recycled water, although substantially more would be available as additional end use demand develops. The proposed project would not directly or indirectly induce growth or remove an obstacle to growth, since the increased population would occur in any case based on the cities' and counties' approved build-out and growth control policies. The recycled water that would be made available as a result of the proposed project would be used to meet a small percentage of projected demand in 2030 that would otherwise be met with imported water. The proposed project's potential to induce population growth is considered to be less than significant.

b,c) **No Impact.** The proposed project does not involve the construction or demolition of housing. Therefore, the proposed project would not displace people or housing, and there would be no impact.

d) **Less Than Significant.** The proposed locations of the pump station and storage tank are based on proximity and connectivity to the proposed pipeline and elevation. The proposed pipeline route has been determined based on specific screening criteria, including minimizing the distance between the water reclamation plants and minimizing the distance between the pipeline and the end users. The locations of project facilities were not based on socio-economic characteristics of communities, such as income level or race/ethnicity.

The pump station and a majority of the pipeline would be located in Census Tract number 9101. The storage tank would be located in Census Tract number 9102. The 2010 Census reported there were 1,800 persons residing in Tract 9101 and 2,015 persons residing in Tract 9102. The 2010 Census reported that residents of Tract 9101 are 78 percent Hispanic and 8 percent black. The 2010 Census reported that 20 percent of residents of Tract 9102 are Hispanic and 6 percent are black. The 2010 Census data reported that 54.4% of Palmdale is Hispanic (Los Angeles County Almanac, 2012). Therefore, the project components would not be located only in tracts disproportionately characterized by minority populations when compared to the City overall. Tract 9102 has a lower proportion of Hispanic residents, relative to the City overall. Tract 9101 does have a greater proportion of Hispanic residents, relative to the City overall; however the pump station would be located at the PWRP, which is not in close proximity to any residential neighborhoods, and the pipelines would be located in streets throughout the tract, not targeting any particular neighborhood.

Median household income data for the two census tracts affected by the proposed project demonstrate a lack of correlation with low income areas. Median annual household income is $32,782 in Tract 9101 and $91,697 in Tract 9102, fluctuating both above and below the median household income levels for the City of Palmdale which was reported to be $54,840. The poverty level for 2011 was set at $22,350 (total yearly income) for a family of four. The 2010 Census reported Palmdale as having 5.4% having made less than $10,000, 4.7% making between $10,000 to $14,999 and 9.3% making between

$15,000 to $24,999. The median income in both Tract 9101 and 9102 were above the poverty level. Because the median income ranges vary between the two tracts and the City as a whole, the project will not disproportionately affect low income households.

Based on all census data the proposed project would not have a disproportionate affect on minority or low income populations. Impacts are considered less than significant.

No Action Alternative

Under the No Action Alternative, no development or improvements would occur; there would be no impacts to induce substantial population growth or require the relocation of housing elsewhere. In addition, no disproportionate impacts to minority or low income populations would occur

References

ESRI, Census Data, 2011

Los Angeles County Almanac, Racial/Ethnic Composition of Cities by Percentages Los Angeles County 2010 Census : http://www.laalmanac.com/population/po38.htm, Accessed January 2, 2012

3.14 Public Services

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
14. PUBLIC SERVICES — Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
i) Fire protection?	☐	☐	☐	☒
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

Discussion

a.i–v) **No Impact.** During construction of the proposed project, a relatively small number of construction workers would be required. It is expected that most of these workers would commute to the project site from surrounding communities. Therefore substantial temporary increases in population that would adversely affect public services and require construction of new public facilities are not expected. There would be no impact.

Operation of the proposed project would result in the use of recycled water for end uses currently being served by potable water, such as landscape irrigation. The proposed project would reduce future demand for potable water supply in the project area. The proposed project would not directly or indirectly induce population growth (see Section 3.13). The proposed project would not require additional public services, such as fire protection, police protection, schools, or parks and thus would not require construction of new public facilities. There would be no impact.

No Action Alternative

Under the No Action Alternative, no direct demand for public services would occur. Since no development would occur, the demand for public services would remain unchanged

3.15 Recreation

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
15. RECREATION — Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

a,b) **No Impact.** Operation of the proposed project would result in the use of recycled water for end uses currently being served by potable water, such as landscape irrigation. The proposed project would reduce demand for potable water supply in the project area. The proposed project would not result, directly or indirectly, in an increase in population; therefore the proposed project would not result in an increase in the use of existing neighborhood and regional parks or other recreational facilities and would not cause physical deterioration of facilities. The proposed project would not require the construction of additional recreational facilities. The proposed project would have no impact on recreation.

No Action Alternative

Under the No Action Alternative, all project sites would remain unchanged, and no new development or improvements would occur. The No Action Alternative would not induce deterioration of existing recreational facilities or construct any facilities in an area zoned for recreation.

3.16 Transportation and Traffic

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
16. TRANSPORTATION AND TRAFFIC — Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☒	☐	☐
b) Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☒	☐	☐
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?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐
e) Result in inadequate emergency access?	☐	☒	☐	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☒	☐	☐

Discussion

a,b) **Less Than Significant with Mitigation.** Applicable transportation plans and policies include the Los Angeles County Congestion Management Plan (CMP), the Southern California Association of Government's (SCAG) Regional Transportation Plan, the Antelope Valley Transit Authority Bus Plan, and the Circulation Element of the Palmdale General Plan.

The proposed project would not introduce any new facilities to the project area that would generate long-term changes in traffic. There would be no long-term impacts to level of service standards or performance of the circulation system. Potential traffic and transportation effects would be limited to the construction phase of the proposed project, particularly construction of the recycled water pipelines. Construction-generated traffic would be temporary and therefore would not result in any long-term degradation in operating conditions or conflict with the Los Angeles County CMP, Circulation Element of the City of Palmdale's General Plan, or the SCAG's Regional Transportation plan. The Los Angeles County General Plan and the City of Palmdale General Plan's alternative transportation-related goals and policies pertain to long-term land use and transportation planning. Standards for roadways that are part of the Los Angeles County CMP network

are intended to regulate long-term traffic increases resulting from the operation of new development, and do not apply to temporary construction projects. As project construction activities would last for approximately 24 months, long-term transportation policies and plans would not be affected. The primary impacts from the movement of construction trucks would include short-term and intermittent lessening of roadway capacities due to slower movements and larger turning radii of the trucks compared to passenger vehicles. Construction of the pump station and storage tank would occur completely within the site boundaries, resulting in minimal impacts to roadway circulation. Impacts to location and regional circulation system performance would primarily be associated with construction of the proposed pipeline within the roadway and right-of-way.

Traffic-generating construction activities related to the construction of the pipelines would consist of the daily arrival and departure of constructions workers, trucks hauling equipment and materials to the construction site, the hauling of excavated soils, and importing of new fill. Construction equipment used for the proposed project would include concrete trucks, back-hoes, paving equipment, and periodic delivery of pipes and materials. Construction would include the transportation of oversize loads, such as trucks carrying pipes.

The proposed alignment would follow within and/or across several roadway right-of-ways. The proposed pipeline alignment runs along the following roadways:

Sierra Highway is a two-lane highway that runs parallel to SR 14 through the Antelope Valley. The Antelope Valley Metrolink Line runs directly parallel to Sierra Highway along its eastern side. Sierra Highway is considered a regional arterial between Avenue M and Avenue P and a major arterial south of Avenue P. Proposed pipeline construction would occur along Sierra Highway between Avenue O-8 and Avenue M. An existing Palmdale Class I bikeway and an adopted Palmdale Master Plan bikeway combined run the length of the proposed pipeline.

Avenue M is considered a regional arterial and is a two-lane east-west roadway. The proposed pipeline would run along Avenue M, between Sierra Highway and Challenger Way/10th Street East. An adopted Palmdale Master Plan bikeway route runs the length of the proposed pipeline.

Avenue O runs west starting at Sierra Highway and has a total of two through lanes. The proposed pipeline would run along Avenue O to Amargosa Creek and continue along the creek to the proposed storage tank.

Avenue P (Rancho Vista Blvd) is considered a major arterial and runs east-west. The proposed pipeline would run between 30th Street East and 10th Street East.

Challenger Way/10th Street East is discontinuous along its length. It extends from north of Avenue K inLancaster to Avenue M, and from Avenue O-8 to Avenue S. It has two through lanes along both segments.

30th Street East is a two-lane north-south roadway. The proposed pipeline would run from Avenue P to the pump station at the PWRP.

According to the Antelope Valley Transit Authority (AVTA) several public transportation routes follow the proposed pipeline construction areas. Routes 1, 2, 3, 4, 7, and the Lake L.A. Express would be temporarily affected by construction of the proposed pipeline. The placement of the pipeline in the roadways would temporarily disrupt existing transportation and circulation patterns. Impacts would include direct disruption of traffic flows and street operations. Construction in the paved right-of-way would result in a reduction in travel lanes. Construction work within and/or across high traffic volume regional arterials would affect traffic flow and operations at these locations. Construction of the pipeline is not expected to result in complete roadway closure. Jack and bore techniques would be utilized to construct the pipeline across Sierra Highway in two locations (see Figure 2).

Prior to pipeline construction, staging areas would be prepared for materials delivery, storage, and preparation prior to construction. Staging areas would be established in areas near construction zones that are easily accessible. The construction of the staging area would increase construction worker and truck trips along regional and local roads near the staging areas. Implementation of **Mitigation Measures TR-1** through **TR-6** would reduce traffic impacts resulting from the construction of the proposed pipelines to less than significant levels, by requiring the construction contractor and LACWWD40 to identify future potential traffic impacts and implement control measures to reduce those impacts.

Mitigation Measures

TR-1: LACWWD40's construction contractor shall prepare and implement a Traffic Control/Traffic Management Plan subject to approval by the City of Palmdale and any other applicable local jurisdictions prior to construction. The plan shall:

- Identify hours of construction and hours for deliveries;
- Include a discussion of haul routes, limits on the length of open trench, work area delineation, traffic control and flagging;
- Identify all access and parking restrictions, pavement markings and signage requirements (e.g., speed limit, temporary loading zones);
- Maintain access to residence and business driveways at all times to the extent feasible; Minimize access disruptions to businesses and residences;

- Layout a plan for notifications and a process for communication with affected residents and businesses prior to the start of construction. Advance public notification shall include posting of notices and appropriate signage of construction activities. The written notification shall include the construction schedule, the exact location and duration of activities within each street (i.e., which lanes and access point/driveways would be blocked on which days and for how long), and a toll-free telephone number for receiving questions or complaints;
- Include a plan to coordinate all construction activities with emergency service providers in the area at least one month in advance. Emergency service providers shall be notified of the timing, location, and duration of construction activities. All roads shall remain passable to emergency service vehicles at all times;
- Include the requirement that all open trenches be covered with metal plates at the end of each workday to accommodate traffic and access; and
- Specify the street restoration requirements pursuant to agreements with the local jurisdictions.

Mitigation Measure TR-2: LACWWD40 shall identify all roadway locations where special construction techniques (e.g., horizontal boring, directional drilling or night construction) will be used to minimize impacts to traffic flow.

Mitigation Measure TR-3: LACWWD40 shall develop circulation and detour plans to minimize impact to local street circulation, including bikeways. This may include the use of signing and flagging to guide vehicles and cyclists through and/or around the construction zone.

Mitigation Measure TR-4: LACWWD40 shall encourage construction crews to park at offroad staging areas to limit lane closures in the public right-of-way.

Mitigation Measure TR-5: Peak travel periods shall be avoided when considering partial road closures.

Mitigation Measure TR-6: LACWWD40 shall consult with the Antelope Valley Transit Authority at least one month prior to construction to coordinate bus stop relocations and to reduce potential interruption of transit service.

c) **No Impact.** Construction and operation of the proposed project would not affect air traffic patterns, levels, or locations. The proposed project is located within the AIA of the PMD. Refer to Section 3.10, Land Use and Land Use Planning, for additional discussion of project impacts associated with airport land use compatibility plans.

d) **Less Than Significant with Mitigation.** The proposed project would not permanently modify any roadway designs or introduce incompatible vehicles. Any disturbance to

roadways during pipeline construction would be restored in accordance with **Mitigation Measure HYDRO-11**. The presence of construction vehicles and equipment would temporarily introduce potential safety hazards to motorists, cyclists, and pedestrians during pipeline construction. Implementation of **Mitigation Measures TR-1** through **TR-6** would minimize potential hazards to less than significant levels.

Mitigation Measures

Implementation of **Mitigation Measure HYDRO-11** and **TR-1** through **TR-6**

e) **Less Than Significant with Mitigation.** Implementation of **Mitigation Measure TR-1** would require agency coordination with emergency service providers in the area at least one month in advance. Adherence to this mitigation measure would reduce any potential impacts regarding emergency services to less than significant levels.

Mitigation Measures

Implementation of **Mitigation Measure TR-1**

f) **Less Than Significant with Mitigation.** The proposed project would have no long-term impact on demand for alternative transportation or on alternative transportation facilities (i.e., for transit and bicyclists). However, pipeline construction could slightly disrupt these alternate forms of transportation due to the proposed pipeline construction and partial lane closures. The LA Lake Express route may be temporarily impacted for construction on Avenue P. Avenue P is also dedicated as a Multi-Use Trail in the General Plan. Intersections that may cause alternative transportation to be susceptible to disruption include Rancho Vista Boulevard and 10th Street West, and East Avenue P and 15th Street East.

Implementation of Mitigation Measures TR-3 and TR-6 would require the construction contractor to establish methods for minimizing construction effects on transit service. Specific requirements that may be included in the traffic control/traffic management plan are identified under Mitigation Measures TR-3 and TR-6. Implementation of Mitigation Measure TR-3 would ensure potential impacts association with temporary disruptions to bikeways would be mitigated to a less than significant level. Implementation of Mitigation Measure TR-6 would ensure potential impacts associated with temporary disruptions to transit service would be mitigated to a less than significant level.

Mitigation Measures

Implementation of **Mitigation Measure TR-3** and **TR-6**

No Action Alternative

Under the No Action Alterative, all project sites would remain unchanged, and no new development or improvements would occur. The No Action Alternative would not result in any traffic-related impacts

3.17 Utilities and Service Systems

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
17. UTILITIES AND SERVICE SYSTEMS — Would the project:				
a) Conflict with wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
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?	☐	☒	☐	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☒	☐	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☒	☐	☐

Discussion

a) **Less Than Significant.** The proposed project would convey and store recycled water produced at existing wastewater treatment plants: the LWRP, PWRP, and RWWTP. Initially, the proposed project would construct an immediate connection with the PWRP and, upon completion of the Regional Recycled Water Project backbone system, would convey and store recycled water produced at all three regional treatment plants. The recycled water used by proposed end users would be disinfected tertiary treated effluent. Recycled water use associated with the proposed project would comply with the California Department of Public Health (formerly the Department of Health Services) recycled water regulations contained in Title 22 of the California Code of Regulations. In addition, the proposed project would be subject to conditions imposed by the Regional Water Quality Control Board (RWQCB) pursuant to Water Recycling Requirements (WRRs). The WRRs would cover the proposed end uses. The proposed project would not conflict with any wastewater treatment regulations. The impact would be less than significant

b) **No Impact.** The proposed project would convey and store recycled water produced at existing wastewater treatment plants: the LWRP, PWRP, and RWWTP. The proposed

project does not include construction of new treatment facilities. Therefore, no impacts would occur.

c) **Less Than Significant with Mitigation.** Operation of the proposed recycled water pipelines is not expected to substantially alter existing drainage patterns within the project area following completion of construction activities. The portion of the Amargosa Reach of the recycled water pipeline that would be constructed belowground along and within the stream bed of Amargosa Creek would be restored to preconstruction conditions. The remaining recycled water pipelines would be installed within existing roadway rights-of-way, and after construction is concluded, roadways would be restored to existing conditions as well. **Mitigation Measure HYDRO-11** would ensure that no new permanent impervious surfaces are created by the recycled water pipelines that could alter drainage patterns and potentially result in localized flooding impacts. The proposed project's impact to storm water drainage facilities is considered less than significant.

Mitigation Measures

Implementation of **Mitigation Measure HYDRO-11.**

d) **No Impact.** The proposed project would convey and store recycled water produced at existing wastewater treatment plants: the LWRP, PWRP, and RWWTP. Initially, the proposed project would construct an immediate connection with the PWRP and, upon completion of the Regional Recycled Water Project backbone system, would convey and store recycled water produced at all three treatment plants. The LWRP and PWRP are owned and operated by the Los Angeles County Sanitation Districts (LACSD). The RWWTP is owned and operated by the Rosamond Community Services District (RCSD). Each of these facilities is in the process of being upgraded to provide 100 percent tertiary-treated effluent that is suitable for use for landscape irrigation. No new water resources or entitlements are required by the proposed project. There would be no impact.

e) **No Impact.** The proposed project would benefit LACSD and RCSD by providing beneficial uses for the effluent produced at their treatment plants. The proposed project is being designed with adequate capacity to handle the volume of effluent to be produced at the LWPR, PWRP, and RWTTP after the planned upgrades are completed. There would be no impact.

f,g) **Less Than Significant with Mitigation.** Construction of the proposed project would generate solid waste, including excavated soil. Soils removed during construction of the pipelines would be stockpiled and reused onsite to the extent feasible to minimize the need for disposal. Approximately 1,181,500 cubic feet of excavated soil would need to be disposed offsite. The project would be subject to the County of Los Angeles' Construction and Demolition Debris Recycling and Reuse Ordinance requiring 50 percent diversion on all construction projects. Non-recyclable construction waste for the project, including excavated soils, would be exported by a private contractor who would haul the waste to a local landfill for disposal. **Mitigation Measures UTS-1** and **UTS-2**

would reduce the amount of solid waste expected to be generated. With implementation of the mitigation measures, the project construction waste generation would be considered less than significant.

Mitigation Measures

UTS-1: Project facility design and construction methods that produce less waste, or that produce waste that could more readily be recycled or reused shall be encouraged.

UTS-2: A requirement for the contractor to describe plans for recovering, reusing, and recycling wastes produced through construction, demolition, and excavation activities shall be included in construction specifications.

No Action Alternative

Under the No Action Alternative, all project sites would remain unchanged, and no new development or improvements would occur. The No Action Alternative would not result in any impacts associated with water, wastewater, storm water, or solid waste since no new facilities would be constructed or operated

3.18 Mandatory Findings of Significance

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
18. MANDATORY FINDINGS OF SIGNIFICANCE — Would the project:				
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) 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 past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒
c) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Discussion

a) **Less Than Significant with Mitigation.** The proposed project would have the potential to impact sensitive wildlife species and natural communities during construction activities. However, with the incorporation of **Mitigation Measures BIO-1** through **BIO-8**, potential impacts to biological resources would be reduced to less than significant levels.

The project would involve excavation and grading activities which could potentially unearth prehistoric archaeological resources. Such actions could unearth, expose, or disturb subsurface paleontological, archaeological, historical, or Native American resources that were not observable on the surface. However, with the incorporation of **Mitigation Measures CULT-1, CULT-2, CULT-3 and CULT-4,** potential impacts to paleontological or cultural resources that represent major periods of California history or prehistory would be reduced to less than significant levels.

b) **No Impact.** There would be no significant cumulative impacts of the proposed project. Individual project impacts identified in this Initial Study are primarily associated with project construction and are mitigated to less-than-significant levels with implementation of mitigation measures described herein. Greenhouse gas impacts associated with the proposed project, which are considered to be exclusively cumulative impacts, would not be significant or cumulatively considerable.

c) **Less Than Significant with Mitigation.** Construction and operation of the proposed project would generate construction noise and air emissions. Air emissions associated

with project construction and operation would not be significant and would not adversely affect human beings. Further, the proposed project would not create any long-term operational noise. Temporary daytime construction noise would be less than significant with implementation of **Mitigation Measures NOISE-1, NOISE-2,** and **NOISE-3** and would not adversely affect human sensitive receptors. In addition, during construction there is the potential for hazardous materials to be released into the environment and the potential for construction workers or the general public to be exposed to toxic materials. Implementation of **Mitigation Measures HAZ-1** through **HAZ-10** would reduce potential impacts to human beings associated with hazards and hazardous materials to less than significant levels As a result, the proposed project would not cause substantial direct or indirect adverse effects on human beings.

CHAPTER 4
Comment Letters

This Initial Study/Mitigated Negative Declaration/Environmental Assessment for the LACWWD40 Phase 2 of the North Los Angeles/Kern County Regional Recycled Water Project and this (collectively, "proposed project") was circulated for public review for 30 days (May 31, 2012 through June 30, 2102). LACWWD40 received six comment letters during the public review period. The letters have been bracketed and numbered and are presented in the order listed in the table below.

COMMENT LETTERS RECEIVED

Comment No.	Commenting Agency	Date of Comment
1	Native American Heritage Commission	May 22, 2012
2	LA County Sanitation District	May 25, 2012
3	Lahontan Regional water Quality Control Board	May 30, 2012
4	California Department of Fish and Game	May 31, 2012
5	Antelope Valley Air Quality Management District	June 13, 2012
6	City of Palmdale	June 14, 2012
7	Governor's Office of Planning and Research	June 18, 2012
8	United States Fish and Wildlife Service	June 13, 2012

STATE OF CALIFORNIA Edmund G. Brown, Jr., 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
ds_nahc@pacbell.net

May 22, 2012

Mr. Jonathan King, Environmental Planner
Los Angeles County Waterworks District No. 40, AV
900 South Fremont Street
Alhambra, CA 91803

Re: SCH#2012051046; Joint CEQA/NEPA Notice; proposed Mitigated Negative Declaration/Environmental Assessment (MND/EA) for the **"Phase 2 of the North Los Angeles/ Kern County Regional Recycled Water Project;"** located in the Antelope Valley; Los Angeles County, California.

Dear Mr. King:

The Native American Heritage Commission (NAHC), the State of California 'Trustee Agency' for the protection and preservation of Native American cultural resources pursuant to California Public Resources Code §21070 and affirmed by the Third Appellate Court in the case of EPIC v. Johnson (1985: 170 Cal App. 3rd 604).

This letter includes state and federal statutes relating to Native American historic properties of religious and cultural significance to American Indian tribes and interested Native American individuals as 'consulting parties' under both state and federal law. State law also addresses the freedom of Native American Religious Expression in Public Resources Code §5097.9.

The California Environmental Quality Act (CEQA – CA Public Resources Code 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ...objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. The NAHC did conduct a Sacred Lands File (SLF) search within the 'area of potential effect (APE) and Native American cultural resources were not identified. 1-1

The NAHC "Sacred Sites,' as defined by the Native American Heritage Commission and the California Legislature in California Public Resources Code §§5097.94(a) and 5097.96. Items in the NAHC Sacred Lands Inventory are confidential and exempt from the Public Records Act pursuant to California Government Code §6254 (r).

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries of cultural resources or burial sites once a project is underway. Culturally affiliated tribes and individuals may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). We strongly urge that you

make contact with the list of Native American Contacts on the attached list of Native American contacts, to see if your proposed project might impact Native American cultural resources and to obtain their recommendations concerning the proposed project. Pursuant to CA Public Resources Code § 5097.95, the NAHC requests cooperation from other public agencies in order that the Native American consulting parties be provided pertinent project information. Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). Pursuant to CA Public Resources Code §5097.95, the NAHC requests that pertinent project information be provided consulting tribal parties. The NAHC recommends *avoidance* as defined by CEQA Guidelines §15370(a) to pursuing a project that would damage or destroy Native American cultural resources and Section 2183.2 that requires documentation, data recovery of cultural resources.

Furthermore, the NAHC if the proposed project is under the jurisdiction of the statutes and regulations of the National Environmental Policy Act (e.g. NEPA; 42 U.S.C. 4321-43351). Consultation with tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 *et seq*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The aforementioned Secretary of the Interior's *Standards* include recommendations for all 'lead agencies' to consider the historic context of proposed projects and to "research" the cultural landscape that might include the 'area of potential effect.' 1-1 cont

Confidentiality of "historic properties of religious and cultural significance" should also be considered as protected by California Government Code §6254(r) and may also be protected under Section 304 of he NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APEs and possibility threatened by proposed project activity.

Furthermore, Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for inadvertent discovery of human remains mandate the processes to be followed in the event of a discovery of human remains in a project location other than a 'dedicated cemetery'.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. Regarding tribal consultation, a relationship built around regular meetings and informal involvement with local tribes will lead to more qualitative consultation tribal input on specific projects.

Finally, when Native American cultural sites and/or Native American burial sites are prevalent within the project site, the NAHC recommends 'avoidance' of the site as referenced by CEQA Guidelines Section 15370(a).

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

Cc: State Clearinghouse

Attachment: Native American Contact List

Native American Contacts
Los Angeles County
May 22, 2012

Beverly Salazar Folkes
1931 Shadybrook Drive
Thousand Oaks, CA 91362
folkes@msn.com
805 492-7255
(805) 558-1154 - cell

Chumash
Tataviam
Ferrnandeño

Kitanemuk & Yowlumne Tejon Indians
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115 Radio Street
Bakersfield , CA 93305
deedominguez@juno.com
(626) 339-6785

Yowlumne
Kitanemuk

Fernandeno Tataviam Band of Mission Indians
Ronnie Salas, Cultural Preservation Department
601 South Brand Boulevard, Suite 102
San Fernando CA 91340
rsalas@tataviam-nsn.gov
(818) 837-0794 Office

(818) 837-0796 Fax

Fernandeno
Tataviam

San Fernando Band of Mission Indians
John Valenzuela, Chairperson
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Newhall , CA 91322
tsen2u@hotmail.com
(661) 753-9833 Office
(760) 885-0955 Cell
(760) 949-1604 Fax

Fernandeño
Tataviam
Serrano
Vanyume
Kitanemuk

LA City/County Native American Indian Comm
Ron Andrade, Director
3175 West 6th St, Rm. 403
Los Angeles , CA 90020
randrade@css.lacounty.gov
(213) 351-5324
(213) 386-3995 FAX

Randy Guzman - Folkes
6471 Cornell Circle
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ndnRandy@yahoo.com
(805) 905-1675 - cell

Chumash
Fernandeño
Tataviam
Shoshone Paiute
Yaqui

Ron Wermuth
P.O. Box 168
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warmoose@earthlink.net
(760) 376-4240 - Home
(916) 717-1176 - Cell

Tubatulabal
Kawaiisu
Koso
Yokuts

San Manuel Band of Mission Indians
Ann Brierty, Policy/Cultural Resources Departmen
26569 Community Center. Drive
Highland , CA 92346
(909) 864-8933, Ext 3250
abrierty@sanmanuel-nsn.gov
(909) 862-5152 Fax

Serrano

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2012051046; CEQA/NEPA proposed Mitigated Negative Declaration/Environmental Assessment (MND/EA); lfor the Phase 2 of the North Los Angeles County Regional Recycled Water Project; located in the Antelope Valley; Los Angelesw County, California.

Native American Contacts
Los Angeles County
May 22, 2012

Kern Valley Indian Council
Robert Robinson, Co-Chairperson
P.O. Box 401
Weldon , CA 93283
brobinson@iwvisp.com
(760) 378-4575 (Home)
(760) 549-2131 (Work)

Tubatulabal
Kawaiisu
Koso
Yokuts

This list is current only as of the date of this document.

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This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2012051046; CEQA/NEPA proposed Mitigated Negative Declaration/Environmental Assessment (MND/EA); lfor the Phase 2 of the North Los Angeles County Regional Recycled Water Project; located in the Antelope Valley; Los Angelesw County, California.

From: Hall, Andrew [mailto:ahall@lacsd.org]
Sent: Friday, May 25, 2012 2:31 PM
To: King, Jonathan
Cc: Sullivan, Mike
Subject: Comments on Phase 2 of the North Los Angeles/Kern County Regional Recycled Water Project Documents

Mr. King,

I recently go a copy of your Notice of Availability for the Initial Study/Mitigated Negative Declaration/Environmental Assessment for Phase 2 of the North Los Angeles/Kern County Regional Recycled Water Project. We are providing the following comments on behalf of LACSD.

Comment 1 – Page 1-1.
The last paragraph states, "These facilities are in the process of being upgraded to provide 100 percent disinfected tertiary-treated effluent that is suitable for all approved recycled water end uses under Title 22 of the California Code of Regulations (CCR)."
The PWRP has already been upgraded to tertiary treatment and the new facility began operations in December 2011. This statement should be changed accordingly. 2-1

Comment 2 – Page 2-1.
There is a sentence which states, "The proposed pump station would be located at the PWRP, which is currently undergoing construction associated with upgrading the treatment facility to produce tertiary-treated recycled water."
As noted in Comment 1, the PWRP has already been upgraded. Please change accordingly. 2-2

Comment 3 – Page 3-52.
Mitigation Measure Hydro 6 states, "LACWWD40, in consultation with the Lahontan RWQCB, shall develop and implement a salt management plan, if needed in the future, to reduce the potential for salt and nutrient loading and minimize impacts to water quality in the Antelope Valley Groundwater Basin."
The Salt Management Plan is already being developed by LACWWD40 staff as part of the required Salt and Nutrient Management Plan. Suggest removing the phrase, "if needed in the future" since this work is already being completed. 2-3

We appreciate the opportunity to comment on this document. Please let me know if you have any questions regarding our comments. Thanks!

Andrew J. Hall, P.E.
Project Engineer – Monitoring Section
LA County Sanitation Districts
1955 Workman Mill Road
Whittier, CA 90601
PH: 562-908-4288, ext. 2837
ahall@lacsd.org

CALIFORNIA
Water Boards

EDMUND G. BROWN JR
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Lahontan Regional Water Quality Control Board

May 30, 2012

File: Environmental Doc Review
Los Angeles County

Jonathan King
Los Angeles County Waterworks No. 40,
Antelope Valley
900 S. Fremont Ave.
Alhambra, CA 91803
Email: jking@dpw.lacounty.gov

COMMENTS ON THE DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION/ENVIRONMENTAL ASSESSMENT FOR PHASE 2 OF THE NORTH LOS ANGELES/KERN COUNTY REGIONAL RECYCLED WATER PROJECT, STATE CLEARINGHOUSE NO. 2012051046, LOS ANGELES COUNTY

California Regional Water Quality Control Board, Lahontan Region (Water Board) staff received the Initial Study/Mitigated Negative Declaration/Environmental Assessment (mitigated negative declaration) on May 21, 2012, for the Phase 2 of the North Los Angeles/Kern County Regional Recycled Water Project (project). The mitigated negative declaration was prepared by the County of Los Angeles Waterworks Division (County Waterworks Division) and submitted in compliance with provisions of the California Environmental Quality Act (CEQA). The proposed Phase 2 consists of (1) recycled water conveyance pipelines, (2) pump station, and (3) a recycled water storage tank. Phase 2 components are part of a backbone system that will provide distribution of recycled water throughout the Antelope Valley and is operated as part of the greater Regional Recycled Water Project. The proposed pipeline will be constructed primarily within public right-of-ways. The proposed pump station is located at the Palmdale Water Reclamation Plant. The proposed steel recycled water storage tank is located within a County owned parcel. The proposed tank site is adjacent to commercial uses to the north and residential land uses to east, and adjacent to the Antelope Valley Freeway (SR-14). 3-1

Water Board staff has reviewed the mitigated negative declaration for the above-referenced Project and submits the following comments in compliance with CEQA Guidelines, *California Code of Regulations* (*CCR*), title 14, section 15096, which requires responsible agencies to specify the scope and content of the environmental information germane to their statutory responsibilities and lead agencies to include that information in their environmental documents. The State Water Resources Control Board (State Water Board) and the Water Board regulate discharges of waste in order to protect water quality and, ultimately, the beneficial uses of waters of the State.

State law assigns responsibility for protection of water quality in the Lahontan Region (Region) to the Water Board.

COMMENTS

Water Board staff requests that the following comments be addressed and incorporated into the final environmental document for the Project. Water Board comments are presented in chronological order. Please note that obtaining a permit and conducting monitoring, as described in the comments, does not constitute adequate mitigation.

1. Section 2.5, Alternatives. The planned location of the Phase 2 pipeline was defined in the Final Facilities Planning Report, Antelope Valley Recycled Water Project, August 2006. In this report, the pipeline started at the Palmdale Water Reclamation Plant, went south on 40th St to a street south of Palmdale Blvd (SR 138), then west to Sierra Ave, and then north to Ave P. The planned location of the storage reservoir was near Elizabeth Lake St and W 25th street, at elevation 2830 feet. In the mitigated negative declaration, the pipeline runs west on Ave P, and the storage reservoir is near Ave P and the Antelope Valley Freeway. The proposed pipeline and storage reservoir location are at significantly lower elevations, with the effect that these new locations may cut off uses in the Palmdale area as previously proposed. The County Waterworks Division needs to evaluate the changes in location of the proposed project. Specifically, the County Water Works Division needs to address lost opportunities of water recycling in the Palmdale area. 3-2

2. Section 3.4, Biological resources, Mitigation Measure BIO-8, surface water impacts. The proposed pipeline location is along and across Amargosa Creek. The report indicates that the County Waterworks Division completed a jurisdictional delineation study in 2008 and determined that Amargosa is not subject to jurisdiction of the U.S. Army Corps of Engineers under Section 4040 of the Federal Clean Water Act. However, Amargosa Creek is waters of the state. County Waterworks Division will probably need to apply for a dredge and fill WDR for impacts to State waters. Application forms can be downloaded from the Water Board's web site at http://www.waterboards.ca.gov/lahontan/water_issues/programs/clean_water_act_401/index.shtml. 3-3

   The mitigated negative declaration must provide specific information on how impacts to waters of the State will be mitigated. All surface waters are waters of the State and include, but are not limited to, drainages, streams, washes, ponds, pools, or wetlands. These waters may be permanent or intermittent. The environmental document needs to quantify these impacts and discuss the purpose of the project's, need for surface water disturbance, and alternatives (avoidance, minimize disturbances, and mitigation). Mitigation must be identified in the environmental document including timing of construction. Mitigation must protect functions and values of wetlands lost.

3. Section 3.9, Hydrology and Water Quality, Mitigation Measure HYDRO-6, management of salts and nutrients. The salt nutrient management plans, as defined in the Water Recyling Policy, apply to an entire region and all activities associated with water supply and wastewater discharges, Water Board staff suggests adding sentences that describe the present (mid 2012) development of a salt/nutrient management plan for the Antelope Valley, including Kern County. 3-4

4. Section 3.9, Hydrology and Water Quality, Mitigation HYDRO-8, construction dewatering. Water diversion and/or dewatering activities may be subject to discharge and monitoring requirements under general waste discharge requirements R6T-2003-0004, General Waste Discharge Requirements for Small Construction. 3-5

5. Section 3.9, Hydrology and Water Quality, Mitigation HYDRO-10, Surface water impacts. Water Board's comment is the same the comment for Section 3.4, Mitigation Measure BIO-8. 3-6

If you have any questions please do not hesitate to contact me at 760-241-7353 (mcoony@waterboards.ca.gov) or Jehiel Cass, at 760-241-2434 (jcass@waterboards.ca.gov).

Sincerely,

for Jehiel W. Cass

Mike Coony
Water Resources Control Engineer

MC\rc\Ltr41054CeqaLaCoPhase2Recycle.docx

DFG Survey Protocols for N. Los AngelesKern Co. Phase 2 Recycled Water Project
From: Scott P. Harris
Sent: Thursday, May 31, 2012 5:02 PM

Subject: DFG Survey Protocols for N. Los Angeles/Kern Co. Phase 2 Recycled Water Project
Attachments: Example NOP Plant Protocols_final_24Nov09.doc; MGS Survey Protocol Revised 2004.doc; SwainsonsHawkProtocol6-2-10[1].pdf; BUOWStaffReport 2012.pdf

Hello Jonathan,

Please see current protocol for Mojave Ground Squirrel, Burrowing Owl and special status plants that DFG recommends. I included information for Swainson's Hawk also which applies to linear projects and they have been know to nest in Joshua Trees which are on the pipeline route. Thank you. 4-1

Antelope Valley
Air Quality Management District

Antelope Valley Air Quality Management District
43301 Division St., Suite 206
Lancaster, CA 93535-4649

661.723.8070
Fax 661.723.3450

Eldon Heaston, Executive Director

In reply, please refer to AV0612/056

June 13, 2012

Los Angeles County Waterworks
District No. 40
Attn: Jonathan King
900 South Fremont Avenue
Alhambra, CA 91803

Project: Phase 2 of the North Los Angeles/Kern County regional Recycled Water Project

Dear Mr. King:

The Antelope Valley Air Quality Management District (District) reviewed the submitted documents and agrees there are no potentially significant impacts and that project impacts related to conflicts with applicable air quality plans would be less than significant with mitigation incorporated for air quality. Mitigation Measures AQ-1 to AQ-6 will ensure that project construction will not violate air quality standards. 5-1

As stated in AQ-1 that District will require submittal and approval of a Dust Control Plan for the project to ensure the proper dust control techniques are utilized during the construction phase of the project.

Thank you for the opportunity to review this planning document. If you have any questions regarding this letter, please contact me at (661) 723-8070 x2.

Sincerely,

Bret Banks
Operation Manager

Clean Cities
Antelope Valley

PALMDALE

a place to call home

JAMES C. LEDFORD, JR.
Mayor

STEVEN D. HOFBAUER
Mayor Pro Tem

LAURA BETTENCOURT
Councilmember

MIKE DISPENZA
Councilmember

TOM LACKEY
Councilmember

38300 Sierra Highway

Palmdale, CA 93550-4798

Tel: 661/267-5100

Fax: 661/267-5122

TDD: 661/267-5167

June 14, 2012

Los Angeles County Waterworks District No. 40
Attn: Jonathan King
900 S. Fremont Avenue
Alhambra, CA 91803

RE: Initial Study/Mitigated Negative Declaration/Environmental Assessment – Phase 2 of the North Los Angeles/Kern County Regional Recycled Water Project

Dear Mr. King:

Thank you for the opportunity to review the above referenced environmental document. At this time, the City of Palmdale has no comment on the project. 6-1

If you have any questions, please feel free to contact the Planning Department at (661) 267-5200.

Sincerely,

Richard Kite
Planning Manager

RK:KI

cc: Gordon Phair

Auxiliary aids provided for communication accessibility upon 72 hours' notice and request.

LLW163

Comment Letter 7 - State Clearinghouse

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

June 18, 2012

Jonathan King
Los Angeles County Waterworks District No. 40, AV
900 S. Fremont Avenue
Alhambra, CA 91803

Subject: Phase 2 of the North Los Angeles/Kern County Regional Recycled Water Project
SCH#: 2012051046

Dear Jonathan King:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on June 14, 2012, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly. 7-1

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# 2012051046
Project Title Phase 2 of the North Los Angeles/Kern County Regional Recycled Water Project
Lead Agency Los Angeles County

Type MND Mitigated Negative Declaration

Description Note: MND/EA

Implementation of Phase 2 of the North Los Angeles/Kern County Regional Recycled Water Project would include construction (1) recycled water conveyance pipelines, (2) a pump station, and (3) a recycled a water storage tank. The Phase 2 components would be part of a backbone system that would allow for the distribution of recycled water throughout the Antelope Valley and would be operated as part of the greater Regional Recycled Water Project. The proposed pipeline would be constructed primarily within public right-of-ways. The proposed pump station would be located at the Palmdale Water Reclamation Plant. The proposed steel recycled water storage tank would be located within a County-owned parcel. The proposed tank site is adjacent to commercial uses to the north and residential land uses to east, and adjacent to the Antelope Valley Freeway (SR-14).

Lead Agency Contact

Name Jonathan King
Agency Los Angeles County Waterworks District No. 40, AV
Phone 626 300 3389 **Fax**
email
Address 900 S. Fremont Avenue
City Alhambra **State** CA **Zip** 91803

7-1

cont

Project Location

County Los Angeles
City Palmdale
Region
Lat / Long 34° 55' 47" N / 118° 4' 30" W
Cross Streets Avenue P to Avenue M & Sierra Highway
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways SR-14
Airports Palmdale Regional
Railways UPRR
Waterways Amargosa Creek
Schools Just Plane Kids
Land Use Land Use: Public Facility (SP), Regional Commercial (RC); Zoning: Public Facility (PF), Prezone Public Facility (PF PZ)

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Geologic/Seismic; Noise; Population/Housing Balance; Public Services; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Water Quality; Water Supply; Wetland/Riparian; Landuse; Cumulative Effects

Reviewing Agencies Resources Agency; Department of Fish and Game, Region 5; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 7; Regional Water Quality Control Bd., Region 6 (Victorville); Department of Toxic Substances Control; Native American Heritage Commission

Note: Blanks in data fields result from insufficient information provided by lead agency.

Document Details Report
State Clearinghouse Data Base

7-1 cont

Date Received 05/16/2012 ***Start of Review*** 05/16/2012 ***End of Review*** 06/14/2012

Note: Blanks in data fields result from insufficient information provided by lead agency.

STATE OF CALIFORNIA

Edmund G. Brown, Jr., 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
ds_nahc@pacbell.net

6.14.12 clear

RECEIVED
MAY 29 2012
STATE CLEARING HOUSE

May 22, 2012

Mr. Jonathan King, Environmental Planner
Los Angeles County Waterworks District No. 40, AV
900 South Fremont Street
Alhambra, CA 91803

Re: SCH#2012051046; Joint CEQA/NEPA Notice; proposed Mitigated Negative Declaration/Environmental Assessment (MND/EA) for the **"Phase 2 of the North Los Angeles/ Kern County Regional Recycled Water Project;"** located in the Antelope Valley; Los Angeles County, California.

Dear Mr. King:

The Native American Heritage Commission (NAHC), the State of California 'Trustee Agency' for the protection and preservation of Native American cultural resources pursuant to California Public Resources Code §21070 and affirmed by the Third Appellate Court in the case of EPIC v. Johnson (1985: 170 Cal App. 3rd 604).

This letter includes state and federal statutes relating to Native American historic properties of religious and cultural significance to American Indian tribes and interested Native American individuals as 'consulting parties' under both state and federal law. State law also addresses the freedom of Native American Religious Expression in Public Resources Code §5097.9.

The California Environmental Quality Act (CEQA – CA Public Resources Code 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ...objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. The NAHC did conduct a Sacred Lands File (SLF) search within the 'area of potential effect (APE) and Native American cultural resources were not identified.

The NAHC "Sacred Sites,' as defined by the Native American Heritage Commission and the California Legislature in California Public Resources Code §§5097.94(a) and 5097.96. Items in the NAHC Sacred Lands Inventory are confidential and exempt from the Public Records Act pursuant to California Government Code §6254 (r).

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries of cultural resources or burial sites once a project is underway. Culturally affiliated tribes and individuals may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). We strongly urge that you

make contact with the list of Native American Contacts on the attached list of Native American contacts, to see if your proposed project might impact Native American cultural resources and to obtain their recommendations concerning the proposed project. Pursuant to CA Public Resources Code § 5097.95, the NAHC requests cooperation from other public agencies in order that the Native American consulting parties be provided pertinent project information. Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). Pursuant to CA Public Resources Code §5097.95, the NAHC requests that pertinent project information be provided consulting tribal parties. The NAHC recommends *avoidance* as defined by CEQA Guidelines §15370(a) to pursuing a project that would damage or destroy Native American cultural resources and Section 2183.2 that requires documentation, data recovery of cultural resources.

Furthermore, the NAHC if the proposed project is under the jurisdiction of the statutes and regulations of the National Environmental Policy Act (e.g. NEPA; 42 U.S.C. 4321-43351). Consultation with tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 *et seq*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The aforementioned Secretary of the Interior's *Standards* include recommendations for all 'lead agencies' to consider the historic context of proposed projects and to "research" the cultural landscape that might include the 'area of potential effect.'

Confidentiality of "historic properties of religious and cultural significance" should also be considered as protected by California Government Code §6254(r) and may also be protected under Section 304 of he NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APEs and possibility threatened by proposed project activity.

Furthermore, Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for inadvertent discovery of human remains mandate the processes to be followed in the event of a discovery of human remains in a project location other than a 'dedicated cemetery'.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. Regarding tribal consultation, a relationship built around regular meetings and informal involvement with local tribes will lead to more qualitative consultation tribal input on specific projects.

Finally, when Native American cultural sites and/or Native American burial sites are prevalent within the project site, the NAHC recommends 'avoidance' of the site as referenced by CEQA Guidelines Section 15370(a).

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

Cc: State Clearinghouse

Attachment: Native American Contact List

Hi Howard,

My name is Amy Torres and I am the biologist that is assigned to work on your concurrence request for the LACWD #40 Antelope Valley Recycled Water Improvement Project. I have reviewed your concurrence request letter and the Biological Resources Technical Report and I have a few questions.

1. Could you provide me with a more detailed map of the pipeline alignment along Amargosa Creek and around the golf course? GIS data layers would be great! 8-1
2. How is the EPA involved in the project (providing funding, staffing, resources, etc.)? 8-2
3. Will the pipeline alignment along Amargosa Creek be conducted with jack and bore technology, trenching? Will it be drilled only during times when the creek is dry? 8-3
4. There are no specific minimization measures outlined for the least Bell's vireo. The only habitat for the vireo would be in the area of the golf course. There are two measures that can be taken to insure that no affects to the vireo will occur:

- The easiest and most reliable route to insure least Bell's vireo are not impacted by project activities is to avoid laying pipe adjacent to the golf course (or within 500 feet of vireo habitat on the golf course) during the vireo nesting season (March 15 through September 15). No focused, protocol level surveys would be required. 8-4
- If you plan on conducting pipeline work within 500 feet of vireo habitat on the golf course during the nesting season (March 15 through September 15), then vireo may be affected by vibration and noise generated by project work. It is recommended that focused, protocol level least Bell's vireo surveys be conducted in the area of the golf course if the owners will let you. If an active vireo territory is detected within 500 feet from project activities, then avoidance during the nesting season would be necessary. If the active territory is located greater than 500 feet from project activities, then work can resume as planned during the nesting season. If no active territories are detected during the surveys, then work can resume as planned during the nesting season.

If the owners of the golf course will not let you survey the area for the least Bell's vireo or if you decide to not conduct the surveys, presence would be assumed and project work within 500 feet of the golf course would not occur during nesting season.

Please let me know the answer to these questions, including a map and what you plan to do regarding the least Bell's vireo minimization measures.

Thanks!

Amy Torres
Wildlife Biologist
U.S. Fish and Wildlife Service
Ventura Fish & Wildlife Office
Desert Division Remote Office

CHAPTER 5
Response to Comments

This Initial Study/Mitigated Negative Declaration/Environmental Assessment for the LACWWD40 Phase 2 of the North Los Angeles/Kern County Regional Recycled Water Project and this (collectively, "proposed project") was circulated for public review for 30 days (May 31, 2012 through June 30, 2102). LACWWD40 received seven comment letters during the public review period from the Native American Heritage Commission, LA County Sanitation District, Lahontan Regional water Quality Control Board, California Department of Fish and Game, Antelope Valley Air Quality Management District, the City of Palmdale and the Governor's Office of Planning and Research. Additionally, during a concurrence request, the EPA received a comment letter from United States Fish and Wildlife Service. The letters have been bracketed and numbered and are presented in the order listed in the table below. The bracketed letters are included in Chapter 4.

COMMENT LETTERS RECEIVED

Comment No.	Commenting Agency	Date of Comment
1	Native American Heritage Commission	May 22, 2012
2	LA County Sanitation District	May 25, 2012
3	Lahontan Regional water Quality Control Board	May 30, 2012
4	California Department of Fish and Game	May 31, 2012
5	Antelope Valley Air Quality Management District	June 13, 2012
6	City of Palmdale	June 14, 2012
7	Governor's Office of Planning and Research	June 18, 2012
8	United States Fish and Wildlife Service	June 13, 2012

The responses to these comment letters are provided below.

1.0 Comment Letter Responses

Letter 1: Native American Heritage Commission

Comment 1-1

The comment provides the statutory requirements of the NAHC concerning the NAHC role for the protection and preservation of Native American cultural resources. The letter includes state and federal statutes regarding Native American historic properties.

Response 1-1

The comment is noted. The commenter is referred to Appendix C, Cultural Resources Report, of the Initial Study/Mitigated Negative Declaration/Environmental Assessment which details the consultation with Native American groups as requested in the comment.

Letter 2: Los Angeles County Sanitation Districts

Comment 2-1

The commenter refers to the Initial Study/Mitigated Negative Declaration/Environmental Assessment, page 1-1, "These facilities are in the process of being upgraded to provide 100 percent disinfected tertiary treated effluent that is suitable for all approved recycled water end uses under Title 22 of the California Code of Regulations (CCR)."

The commenter notes the PWRP has already been upgraded to tertiary treatment and the new facility began operations in December 2011. This statement should be changed accordingly.

Response 2-1

The comment is noted. The following revisions are made to the Initial Study/Mitigated Negative Declaration/Environmental Assessment, page 1-1:

> "As of December 2011, ~~T~~these facilities ~~are in the process of being~~ have been upgraded to provide 100 percent disinfected tertiary-treated effluent that is suitable for all approved recycled water end uses under Title 22 of the California Code of Regulations (CCR)."

Comment 2-2

The comment states in the Initial Study/Mitigated Negative Declaration/Environmental Assessment, page 2-1, there is a sentence which states, "The proposed pump station would be located at the PWRP, which is currently undergoing construction associated with upgrading the treatment facility to produce tertiary-treated recycled water." The commenter states, "as noted in Comment 1, the PWRP has already been upgraded."

Response 2-2

The comment is noted. The following revisions are to the Initial Study/Mitigated Negative Declaration/Environmental Assessment, page 2-1:

> "The proposed pump station would be located at the PWRP, which as of December 2011 the treatment facility was upgraded ~~is currently undergoing construction associated with~~

~~upgrading the treatment facility~~ to produce tertiary-treated recycled water."

Comment 2-3

The commenter refers to the Initial Study/Mitigated Negative Declaration/Environmental Assessment, page 3-52, Mitigation Measure Hydro 6 provides, "LACWWD40, in consultation with the Lahontan RWQCB, shall develop and implement a salt management plan, if needed in the future, to reduce the potential for salt and nutrient loading and minimize impacts to water quality in the Antelope Valley Groundwater Basin."

The commenter states the Salt Management Plan is already being developed by LACWWD40 staff as part of the required Salt and Nutrient Management Plan and suggests removing the phrase, "if needed in the future" since this work is already being completed.

Response 2-3

The comment is noted. The following revisions are made to the Initial Study/Mitigated Negative Declaration/Environmental Assessment, page 3-52,

> "Mitigation Measure Hydro 6: LACWWD40, in consultation with the Lahontan RWQCB, shall develop and implement a salt management plan, ~~if needed in the future~~, to reduce the potential for salt and nutrient loading and minimize impacts to water quality in the Antelope Valley Groundwater Basin."

Letter 3: Lahontan Regional water Quality Control Board

Comment 3-1

The commenter states that the Water Board staff has reviewed the mitigated negative declaration for the project and submits the following comments in compliance with CEQA Guidelines.

Response 3-1

The comment is noted, no response is required.

Comment 3-2

The commenter states that the proposed pipeline and storage reservoir location are at significantly lower elevations in the MND than the Program EIR, and suggests that these new locations may cut off uses in the Palmdale area that were previously proposed. The commenter states County Waterworks Division needs to evaluate the changes in location of the proposed project. The commenter states the County Water Works Division needs to address lost opportunities of water recycling in the Palmdale area.

Response 3-2

The proposed project is consistent with the Goals and Objectives of the North Los Angeles/Kern County Regional Recycled Water Project. The pipeline alignment was chosen based on the most

practical implementation of the North Los Angeles/Kern County Regional Recycled Water Project. The new locations do not cut-off uses in the Palmdale area. Future pipelines could be installed to meet unmet demands that do not conflict with the proposed project.

Comment 3-3

The commenter states the proposed pipeline location parallels and crosses Amargosa Creek which is a "water of the State." The commenter states that County Waterworks Division will probably need to apply for a dredge and fill WDR for impacts to State waters. The commenter states the Mitigated Negative Declaration must provide specific information on how impacts to waters of the State will be mitigated. The commenter states the environmental document needs to quantify these impacts and discuss the purpose of the project's, need for surface water disturbance, and alternatives (avoidance, minimize disturbances, and mitigation) and mitigation must be identified in the environmental document including timing of construction, and mitigation must protect functions and values of wetlands lost.

Response 3-3

The commenter is referred to the following revisions on page 3-52, last full paragraph:

> As discussed above, the U.S. Army Corps of Engineers has determined that isolated waters within the Lahontan Region are not "waters of the United States" and would not be subject to regulation under the federal Clean Water Act. However, State standards still apply to any "waters of the State" under the State Porter-Cologne Water Quality Control Act (California Water Code § 13000 et seq.).
>
> Section 13260(a) of the California Water Code (Water Code) requires that any person discharging waste or proposing to discharge waste within any region, other than to a community sewer system, which could affect the quality of the waters of the State, file a report of waste discharge (ROWD). The proposed project would not impact "waters of the United States", but would affect Armagosa Creek which is a "water of the State. Therefore, the LACWWD40 would be required to prepare and submit a ROWD for placing fill in the channel.

Comment 3-4

The commenter states that salt nutrient management plans, as defined in the Water Recycling Policy, apply to an entire region and all activities associated with water supply and wastewater discharges, the commenter suggests adding sentences that describe the present (mid 2012) development of a salt-nutrient management plan for the Antelope Valley, including Kern County.

Response 3-4

The comment is noted. The following revisions are made to page 3-51, after the first partial paragraph:

> "Currently, LACWWD40 is developing a Salt/Nutrient Management Plan (SMP). SMP stakeholder meetings have been held to raise awareness and engage stakeholders and

other interested parties on salinity and nutrient issues and management plan development efforts in the Antelope Valley. The stakeholder group has determined the boundary limits for the SMP area based on available water quality information provided by the stakeholders. In order to understand the current and future basin uses, the group has identified current and future projects contributing to potential salt/nutrient impacts to the basin, identified existing groundwater data collection throughout the region, and created a draft land use map. The group has compiled historical and current water quality (defined as the average concentration of salt/nutrients and other constituents of concern at each well) from different agencies and created a groundwater quality database. The group has also developed a current and future project list that determined the SMP water quantity projection for the next 25 years. These projections will allow the stakeholder group to analyze the salt/nutrient impacts the projects may have on the basin. This analysis will eventually help determine the basin's assimilative capacity. The group is currently selecting several monitoring wells for the Salt Management Monitoring Plan based on the adequate proximity of the wells to current and future projects and an even distribution of available existing wells within the region. Once all the necessary well information for monitoring plan has been obtained, the group will prepare a map would identifying all the monitoring wells and identify the stakeholders responsible for the monitoring data.

Comment 3-5

The commenter states water diversion and/or dewatering activities may be subject to discharge and monitoring requirements under general waste discharge requirements R6T-2003-0004, General Waste Discharge Requirements for Small Construction.

Response 3-5

Construction of the recycled water pipelines, including trenching, jack and bore tunneling and horizontal directional drilling techniques, could potentially meet shallow or perched groundwater. Groundwater levels and the depth of excavation vary throughout the proposed project area. If shallow groundwater is met, dewatering would be required. Dewatering operations would include pumping the groundwater and discharging to the local storm drain system. Discharge water could potentially degrade surface water quality with materials used during typical construction activities, such as silt, fuel, grease or other chemicals. This could be a potentially significant impact; however, impacts would be temporary. Implementation of Mitigation Measure HYDRO-8 would reduce the impact of construction dewatering to surface water quality to less than significant levels.

Additionally, the commenter is referred to the following revisions on page 3-52, last full paragraph,

Mitigation Measure Hydro -8 directs the LACWWD40 if required, to prepare a report of waste discharge for the Lahontan Region Water Quality Control Board, under the General Waste Discharge Requirements R6T-2003-004, General Waste Discharge Requirements for Small Construction Projects. The Lahontan RWQCB encourages implementation of best management practices (BMPs) similar to those required for NPDES storm water permits to protect the water quality objectives and beneficial uses of

local surface waters as provided in the Lahontan Region Water Quality Control Plan (RWQCB, 1995).

The following revisions are made to page 3-52, last paragraph mitigation measure HYDRO-8:

Mitigation Measures

HYDRO-8: LACWWD40 shall ~~obtain and comply~~ conform with the requirements of the dewatering permits issued by the Lahontan RWQCB for dewatering activities, including WQO-2003-003-DWQ. The ~~P~~ provisions of the permit may include treatment of flows prior to discharge.

Additionally, if required, the LACWWD40 shall prepare a ROWD for the Lahontan Region Water Quality Control Board, under the General Waste Discharge Requirements R6T-2003-004, General Waste Discharge Requirements for Small Construction Projects. If the LACWWD40 will have temporary or permanent impacts to waters of the State the LACWWD40shall prepare a ROWD shall quantify permanent and temporary impacts to waters of the State. The ROWD shall provide detailed Best Management Practices to address construction methods that would minimize erosion and protect water quality.

Comment 3-6

The commenter states the Water Board's comments are the same the comment for Section 3.1, Mitigation Measure BIO-8.

Response 3-6

The commenter is referred to Response 3-3, above. No further response is required.

Letter 4: California Department of Fish and Game

Comment 4-1:

The commenter provides protocol survey requirements for Mojave Ground Squirrel, Burrowing Owl and special status and includes information for Swainson's Hawk which have been known to nest in Joshua Trees.

Response 4-1:

The comment is noted. The following revisions to the Initial Study/Mitigated Negative Declaration/Environmental Assessment are made to address the commenter's concerns.

Pages 3-24 and 3-25, Mitigation Measure BIO-1:

BIO-1: A pre-construction survey shall be conducted within areas containing suitable habitat for burrowing owls 14 to 30 days prior to clearing of the site by a

qualified biologist in accordance with the most recent CDFG protocol, currently the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Surveys shall cover areas disturbed by construction including a ~~200 foot~~ 150-meter buffer. The survey would identify adult and juvenile burrowing owls and signs of burrowing owl occupation. If potential presence is ~~if~~ determined through a Phase II burrow survey, a Phase III survey shall be conducted and shall include two early morning surveys and two evening surveys to ensure that all individuals or owl pairs have been located:

- If occupied burrowing owl habitat is detected on or adjacent (i.e., within 150 meters ~~200 feet~~ meters) to the proposed project site, measures to avoid, minimize, or mitigate impacts shall be incorporated into the project and shall include the following:

  - Construction exclusion areas shall be established around the occupied burrows in which no disturbance shall be allowed to occur while the burrows are occupied. During the non-breeding season (~~September 1~~ October 16 through March 31 ~~January 31~~), the exclusion zone shall extend 50 ~~feet~~ meters around the occupied burrows. During the breeding season (~~February 1~~ April 1 through August 31), exclusion areas shall extend 200~~160~~ meters ~~feet~~ around occupied burrows, or at a distance agreed upon after coordination with CDFG.

  - Passive relocation of on-site owls may be implemented during the non-breeding season after coordinating with CDFG. Passive relocation shall be accomplished by installing one-way doors on the entrances of burrows located within 50 meters ~~feet~~ of the project site. The one-way doors shall be left in place for 48 hours to ensure that the owls have left the burrow.

  - For each burrow affected by project construction, two alternate unoccupied natural or artificial burrows shall be provided outside of the 50-meter ~~foot~~ buffer zone, or at a distance agreed upon by CDFG (CDFG, 2012). The alternate burrows shall be monitored daily for one week to confirm that owls have moved and acclimated.

Comment 4-2:

The commenter states protocol for Mojave Ground Squirrel, Burrowing Owl and special status plants that DFG recommends. I included information for Swainson's Hawk also which applies to linear projects and they have been known to nest in Joshua Trees which are on the pipeline route.

Response 4-2:

The following changes are made to pages 3-25 and 3-26, Mitigation Measure BIO-3:

> **BIO-3:** LACWWD40 shall have a qualified biologist conduct a pre-construction spring floristic inventory and rare plant survey to determine and map the location and extent of special-status plant species populations within the construction right-of-way. Surveys shall be conducted according CDFG's 2009 Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities.

Letter 5: Antelope Valley Air Quality Management District

Comment 5-1

The comment states that the Antelope Valley Air Quality Management District has reviewed the submitted documents and agrees there are no potentially significant impacts and that project impacts related to conflicts with applicable air quality plans would be less than significant with mitigation incorporated for air quality. The commenter further states Mitigation Measures AQ-1 to AQ-6 will ensure that project construction will not violate air quality standards. The commenter provides that as stated in AQ-1 that District will require submittal and approval of a Dust Control Plan for the project to ensure the proper dust control techniques are utilized during the construction phase of the project.

Response 5-1

The comment is noted, no response is required.

Letter 6: City of Palmdale

Comment 6-1

The commenter states at the time, the City has no comments.

Response 6-1

The comment is noted, no response is required.

Letter 7: Governor's Office of Planning and Research

Comment 7-1

The commenter states the State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review, agency comments are forwarded for use in preparing the final environmental document. The letter acknowledges compliance with the State Clearinghouse review requirements for draft environmental documents; pursuant to the California Environmental Quality Act.

Response 7-1

The comment is noted, no response is required.

Letter 8: United States Fish and Wildlife Service

Comment 8-1:

The commenter requests a detailed map of the pipeline along Amargosa Creek and the golf course, GIS layers would be preferable.

Response 8-1:

The commenter's request for a detailed map of the pipeline along Amargosa Creek and the golf course, design plans provided on July 17, 2012. No further response is required.

Comment 8-2:

The commenter asks how the EPA is involved in the project.

Response 8-2:

The LACWWD40 has been awarded an Appropriations Grant from the U.S. Environmental Protection Agency (USEPA) for Phase 2 of the Regional Recycled Water Project; therefore, in addition to CEQA compliance, Phase 2 of the project must also comply with the National Environmental Policy Act (NEPA) before construction can be initiated. As such, this IS/MND/EA is being prepared jointly by LADWWD40 (CEQA Lead Agency) and the USEPA (NEPA Lead Agency) in accordance with NEPA (42 USC Section 4321 et seq), the Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 CFR, Sections 1500-1508), and the USEPA Environmental Review Guide for Special Appropriation Grants (2008, USEPA Publication No. 315-K-08-001).

Comment 8-3:

The commenter asks what type of technology will be used for the pipeline along Amargosa Creek and if the drilling will only occur during the dry season.

Response 8-3:

Construction of the proposed recycled water pipelines would involve trenching using a conventional cut and cover technique, and jacking and boring where necessary. No dewatering would be required. The trenching technique would include saw cutting of the pavement where applicable, trench excavation, pipe installation, backfill operations, and re-surfacing to the original condition. The trench would be five to seven feet deep and four to five feet wide. The pipeline would be installed a minimum of four feet below ground surface (bgs).

Jack and bore tunneling is used when trenching is not feasible because the ground surface cannot be disturbed, such as under railroad lines. For Phase 2 construction, jack and bore methods would be used to install the pipeline across the Metrolink/Union Pacific Railroad tracks near Avenue O-8 and just south of Avenue M. Additionally, construction activities in the vicinity of the creek would occur during the dry season (June through September).

Comment 8-4:

The commenter states that there are no specific minimization measures outlined for the least Bell's vireo and states the only habitat for the vireo would be in the area of the golf course and there are two measures that can be taken to insure no effects to vireo will occur. The commenter provides the following:

> " The easiest and most reliable route to insure least Bell's vireo are not impacted by project activities is to avoid laying pipe adjacent to the golf course (or within 500 feet of vireo habitat on the golf course) during the vireo nesting season (March 15 through September 15). No focused, protocol level surveys would be required.
>
> If you plan on conducting pipeline work within 500 feet of vireo habitat on the golf course during the nesting season (March 15 through September 15), then vireo may be affected by vibration and noise generated by project work. It is recommended that focused, protocol level least Bell's vireo surveys be conducted in the area of the golf course if the owners will let you. If an active vireo territory is detected within 500 feet from project activities, then avoidance during the nesting season would be necessary. If the active territory is located greater than 500 feet from project activities, then work can resume as planned during the nesting season. If no active territories are detected during the surveys, then work can resume as planned during the nesting season.
>
> If the owners of the golf course will not let you survey the area for the least Bell's vireo or if you decide to not conduct the surveys, presence would be assumed and project work within 500 feet of the golf course would not occur during nesting season."

Response 8-4:

The comment is noted. The following revisions to the Initial Study/Mitigated Negative Declaration/Environmental Assessment are made to address the commenter's concerns.

Page 3-25, Mitigation Measure BIO-2:

> **BIO-2:** If construction and vegetation removal is proposed during the typical bird nesting period (February 1 through August 31), preconstruction surveys for nesting/roosting bird species shall be conducted by a qualified biologist within 30 days prior to construction, with at least one survey conducted no more than five days prior to the onset of construction (or vegetation removal). The surveys shall include habitats within 500 feet of the construction limits. This survey shall include

species protected under the MBTA including the least Bell's vireo, loggerhead shrike, Swainson's hawk, and Cooper's hawk. The survey shall cover all reasonably potential nesting locations for the relevant species on or closely adjacent to the project site.

Active nest sites located during the pre-construction surveys shall be avoided and a non-disturbance buffer zone established dependent on the species as determined by the monitoring biologist. Buffer distances are typically 300 feet for common birds and passerine species and 500 feet for raptors and special-status species. In the event that least Bell's vireo, or suitable habitat for the species is identified during preconstruction nesting bird surveys, focused, protocol level surveys for the species will be conducted within suitable habitat by a qualified biologist, to identify active nesting territories. Surveys shall be conducted by a qualified biologist according to the guidelines suggested in the USFWS's 2001 *Least Bell's Vireo Survey Guidelines*. Active territories shall be avoided by a 500 foot non-disturbance buffer zone. If suitable habitat for the species is identified within 500 feet of disturbance activities and access is not granted to conduct focused surveys for the species, or if focused surveys are not conducted, presence will be assumed and project work within 500 feet of the golf course shall not occur during least Bell's vireo nesting season (March 15 – September 15).

Prior to construction activities, all ~~The~~ necessary buffer zones shall be delineated in the field with flagging, stakes or construction fencing. Nest sites shall be avoided until the adults and young are no longer reliant on the nest site for survival as determined by a qualified biologist. CDFG will be notified of the identification of active nests and will be consulted regarding resumption of construction activities.

CHAPTER 6

Mitigation Monitoring and Reporting Program

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
Aesthetics					
AES-1: The exterior lighting installed around the storage tank and pump station shall be of a minimum standard required to ensure safe visibility. Lighting shall be shielded and directed downward, away from neighboring land uses to minimize impacts of light and glare.	• Include mitigation measure in project design specifications. • Include mitigation measure in construction contractor specifications.	LACWWD40		X	X
Air Quality					
AQ-1: LACWWD40 shall include in contractor specifications the implementation of a fugitive dust control program pursuant to the provisions of AVAQMD Rule 403.	• Include mitigation measure in contractor specifications.	LACWWD40		X	
AQ-2: All construction equipment shall be properly tuned and maintained in accordance with manufacturer's specifications.	• Include mitigation measure in contractor specifications.	LACWWD40; Construction Contractor		X	
AQ-3: General contractors shall maintain and operate construction equipment so as to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues shall turn their engines off when not in use to reduce vehicle emissions. Construction emissions shall be phased and scheduled to avoid emissions peaks and discontinued during second-stage smog alerts.	• Include mitigation measure in contractor specifications.	LACWWD40; Construction Contractor		X	
AQ-4: Electricity from power poles rather than temporary diesel- or gasoline-powered generators shall be used to the extent feasible.	• Include mitigation measure in contractor specifications.	LACWWD40; Construction Contractor		X	

REGIONAL RECYCLED WATER PROJECT PHASE 2 MITIGATION MONITORING AND REPORTING PROGRAM (continued)

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
AQ-5: All construction vehicles shall be prohibited from idling in excess of five minutes, both on- and off-site.	• Include mitigation measure in contractor specifications.	LACWWD40; Construction Contractor		X	
AQ-6: LACWWD40 shall utilize coatings and solvents that are consistent with applicable AVAQMD or KCAPCD rules and regulations.	• Include mitigation measure in project design specifications. • Include mitigation measure in contractor specifications.	LACWWD40; Construction Contractor		X	
Biological Resources					
BIO-1: A pre-construction survey shall be conducted within areas containing suitable habitat for burrowing owls 14 to 30 days prior to clearing of the site by a qualified biologist in accordance with the most recent CDFG protocol, currently the Staff Report on Burrowing Owl Mitigation (CDFG 1995). Surveys shall cover areas disturbed by construction including a 150-meter buffer. The survey would identify adult and juvenile burrowing owls and signs of burrowing owl occupation. If potential presence if determined through a Phase II burrow survey, a Phase III survey shall be conducted and shall include two early morning surveys and two evening surveys to ensure that all individuals or owl pairs have been located: • If occupied burrowing owl habitat is detected on or adjacent (i.e., within 150-meter) to the proposed project site, measures to avoid, minimize, or mitigate impacts shall be incorporated into the project and shall include the following: – Construction exclusion areas shall be established around the occupied burrows in which no disturbance shall be allowed to occur while the burrows are occupied. During the non-breeding season (October 16 through March 31), the exclusion zone shall extend 50 meters around the occupied burrows. During the breeding season (April1 through August 31), exclusion areas shall extend 200 meters around occupied burrows, or at a distance agreed upon after coordination with CDFG.	• Include mitigation measure in construction contractor specifications. • LACWWD40 shall appoint a qualified biologist to verify contractor compliance. • If species are detected during pre-construction surveys, LACWWD40 shall appoint a qualified biologist for additional survey and monitoring activities. • Retain survey records in the project files.	LACWWD40	X		

REGIONAL RECYCLED WATER PROJECT PHASE 2 MITIGATION MONITORING AND REPORTING PROGRAM (continued)

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
– Passive relocation of on-site owls may be implemented during the non-breeding season after coordinating with CDFG. Passive relocation shall be accomplished by installing one-way doors on the entrances of burrows located within 50 meters of the project site. The one-way doors shall be left in place for 48 hours to ensure that the owls have left the burrow. – For each burrow affected by project construction, two alternate unoccupied natural or artificial burrows shall be provided outside of the 50-meter buffer zone, or at a distance agreed upon by CDFG (CDFG 1995). The alternate burrows shall be monitored daily for one week to confirm that owls have moved and acclimated.					
BIO-2: If construction and vegetation removal is proposed during the typical bird nesting period (February 1 through August 31), preconstruction surveys for nesting/roosting bird species shall be conducted by a qualified biologist within 30 days prior to construction, with at least one survey conducted no more than five days prior to the onset of construction (or vegetation removal). The surveys shall include habitats within 500 feet of the construction limits. This survey shall include species protected under the MBTA including the the least Bell's vireo, loggerhead shrike, Swainson's hawk, and Cooper's hawk. The survey shall cover all reasonably potential nesting locations for the relevant species on or closely adjacent to the project site. Active nest sites located during the pre-construction surveys shall be avoided and a non-disturbance buffer zone established dependent on the species as determined by the monitoring biologist. Buffer distances are typically 300 feet for common birds and passerine species and 500 feet for raptors and special-status species. In the event that least Bell's vireo, or suitable habitat for the species is identified during preconstruction nesting bird surveys, focused, protocol level surveys for the species will be conducted within suitable habitat by a qualified biologist, to identify active	• Include mitigation measure in construction contractor specifications. • LACWWD40 shall appoint a qualified biologist to verify contractor compliance. • If species are detected during protocol surveys, LACWWD40 shall appoint a qualified biologist for monitoring activities. • Retain survey records in the project files.	LACWWD40	X		

REGIONAL RECYCLED WATER PROJECT PHASE 2 MITIGATION MONITORING AND REPORTING PROGRAM (continued)

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
nesting territories. Surveys shall be conducted by a qualified biologist according to the guidelines suggested in the USFWS's 2001 Least Bell's Vireo Survey Guidelines. Active territories shall be avoided by a 500 foot non-disturbance buffer zone. If suitable habitat for the species is identified within 500 feet of disturbance activities and access is not granted to conduct focused surveys for the species, or if focused surveys are not conducted, presence will be assumed and project work within 500 feet of the golf course shall not occur during least Bell's vireo nesting season (March 15 – September 15). Prior to construction activities, all necessary buffer zone shall be delineated in the field with flagging, stakes or construction fencing. Nest sites shall be avoided until the adults and young are no longer reliant on the nest site for survival as determined by a qualified biologist. CDFG will be notified of the identification of active nests and will be consulted regarding resumption of construction activities.					
BIO-3: LACWWD40 shall have a qualified biologist conduct a pre-construction spring floristic inventory and rare plant survey to determine and map the location and extent of special-status plant species populations within the construction right-of-way. Surveys shall be conducted according CDFG's 2009 Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. • The project shall minimize impacts on special-status plant species by reducing the construction right-of-way through areas with documented occurrences of special-status plant species if any are found. • If special-status plant populations are identified within the construction right-of-way, the project applicant shall stake, flag, fence, or otherwise clearly delineate the construction right-of-way that restricts the limits of construction to the minimum necessary to implement the project that also would minimize impacts on special-status plants.	• Include mitigation measure in construction contractor specifications. • LACWWD40 shall appoint a qualified biologist to verify contractor compliance. • LACWWD40 shall retain a qualified biologist to conduct a pre-construction spring floristic inventory and rare plant survey. • If species are identified during protocol surveys, LACWWD40 shall appoint a qualified biologist for monitoring activities. • Retain survey records in the project files.	LACWWD40	X		

REGIONAL RECYCLED WATER PROJECT PHASE 2 MITIGATION MONITORING AND REPORTING PROGRAM (continued)

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
• If special-status plant populations are identified within the construction right-of-way, the project applicant shall salvage and stockpile the top 12 inches of soil in the construction zone, including plant material and duff for use in the restoration efforts. If special-status plant populations are identified within the construction right-of-way, the project applicant shall prepare and implement a special-status species salvage and replanting plan, for unavoidable temporary impacts on special-status plants. The salvage and replanting plan shall include measures to salvage, replant, and monitor the construction zone until native vegetation is re-established under the direction of CDFG and USFWS.					
BIO-4: A Worker Environmental Awareness Program (WEAP) would be implemented to educate construction crews and contractors on sensitive biological resources that could occur on the project site. As part of the WEAP, special-status species with potential to occur on the project site would be reviewed along with appropriate avoidance measures to be implemented. The WEAP would be required for all associated on-site construction personnel prior to the commencement of construction activities and a record of participation shall be maintained.	• Include mitigation measure in construction contractor specifications. • LACWWD40shall appoint a qualified biologist to verify contractor compliance. • Retain records of BMP implementation in the project files.	LACWWD40		X	
BIO-5: Prior to project implementation, a biological reconnaissance survey should be conducted by a qualified biologist to determine if potential habitat is present for the following species: California red-legged frog, Mohave ground squirrel, coast horned lizard, San Joaquin pocket mouse, and silvery legless lizard. If potential habitat is present for these species, then the implementing agencies should arrange for a qualified biologist with the necessary permits to conduct focused surveys for the specific species warranted. If focused surveys determine that a special-status species is present, then LACWWD40 should take the steps necessary to avoid any potential direct or indirect impacts (i.e. construction noise and dust) that may be incurred by the special-status species present. If impacts	• Include mitigation measure in construction contractor specifications. • LACWWD40 shall appoint a qualified biologist to verify contractor compliance. • LACWWD40 shall retain a qualified biologist to conduct a biological reconnaissance survey. • If species are identified during the reconnaissance survey, LACWWD40 shall appoint a qualified biologist for monitoring activities. • Retain survey records in the project files.	LACWWD40	X		

REGIONAL RECYCLED WATER PROJECT PHASE 2 MITIGATION MONITORING AND REPORTING PROGRAM (continued)

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
are unavoidable, then consultation with the CDFG and/or USFWS shall occur in order to obtain the required take permit prior to any project activities that may result in impacts on California red-legged frog, Mohave ground squirrel, coast horned lizard, San Joaquin pocket mouse, or silvery legless lizard.					
BIO-6: Prior to project implementation, a habitat assessment will be conducted by a qualified biologist to determine the potential for the Mohave ground squirrel to occur. If the habitat assessment determines that potential habitat for the Mojave ground squirrel is present in the impact zone or within 300 feet of the construction zone, then LACWWD40 have two options: 1) assume the Mohave ground squirrel is present and either take the steps necessary to avoid any potential direct or indirect impacts (i.e., construction noise and dust) that may be incurred by the Mohave ground squirrel or; 2) arrange for a qualified biologist with the necessary permits to implement a trapping program to determine the presence or absence of the Mohave ground squirrel.	• Include mitigation measure in construction contractor specifications. • LACWWD40 shall appoint a qualified biologist to verify contractor compliance. • LACWWD40 shall retain a qualified biologist to conduct a habitat assessment. • If species are identified during the habitat assessment, LACWWD40 shall appoint a qualified biologist for monitoring and trapping activities. • Retain survey records in the project files.	LACWWD40	X		
BIO-7: All steep-walled trenches or excavation pits used during construction shall be covered at all times except when being actively utilized. Covers shall be strong enough to prevent wildlife from falling through and shall be designed to exclude small animals, including Mohave ground squirrel, coast horned lizard, San Joaquin pocket mouse, and silvery legless lizard. If the trenches or excavations cannot be covered, exclusion fencing constructed of materials that would exclude both large and small wildlife species shall be installed around the trench or excavation to prevent entrapment of wildlife. Open trenches, or other excavations that could entrap wildlife shall be inspected by a biological monitor a minimum of three times per day and immediately before backfilling. If present, construction shall not occur until the animal has left the trench or been removed by a qualified biological monitor as feasible. Employees and	• Include mitigation measure in construction contractor specifications. • LACWWD40 shall appoint a qualified biologist to verify contractor compliance. • If species are identified during construction, LACWWD40 shall appoint a qualified biologist for monitoring and trapping activities. • Retain survey records in the project files.	LACWWD40; Construction Contractor		X	

REGIONAL RECYCLED WATER PROJECT PHASE 2 MITIGATION MONITORING AND REPORTING PROGRAM (continued)

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
contractors shall look under vehicles and equipment for the presence of wildlife before movement. If wildlife is observed, no vehicles or equipment shall be moved until the animal has left voluntarily or is removed by the biological monitor. No listed species shall be handled.					
BIO-8: Construction crews shall avoid permanently altering streambeds and banks of Amargosa Creek and all features of the creek shall be restored to previous conditions once construction is complete. The operating agencies shall secure a SAA from the CDFG and impacts to the streambed of Amargosa Creek will be mitigated based on measures adopted in the SAA.	• Include mitigation measure in construction contractor specifications. • LACWWD40 shall appoint a qualified biologist to verify contractor compliance. • Retain survey records in the project files.	LACWWD40; Construction Contractor		X	
BIO-9: Efforts will be made to prevent permanent native vegetation loss to the greatest extent feasible. If removal of Joshua trees is deemed unavoidable, then LACWWD40 must take one of the following actions to fulfill obligations under provisions of the Code: 1. Obtain a desert vegetation removal permit from the City of Palmdale's landscape architect or his or her designee. The City currently maintains a minimum preservation standard of two (2) Joshua trees per gross acre, averaged for the gross site area covered by the development application. This standard can also be modified, as determined by the City, to reflect an appropriate preservation ratio as site conditions warrant. The City currently requires proponents for projects likely to impact Joshua trees to acquire off-site habitats of equal or superior quality at no less than a 2:1 ratio within remaining habitat in the Antelope Valley. The terms, conditions, implementation, and location of these mitigation measures shall be determined through consultation with relevant resource agencies, including the CDFG. 2. Secure an exemption from the provisions of Chapter 14.04 of the Code, under Subsection (F) of 14.04.090, which identifies an exemption as "Removal of street trees from within the public right-of-way, which in the opinion of the director of public works or his or her designee, will or may cause damage to public	• Include mitigation measure in construction contractor specifications. • LACWWD40 shall appoint a qualified biologist to verify contractor compliance. • Retain survey records in the project files.	LACWWD40; Construction Contractor	X	X	

REGIONAL RECYCLED WATER PROJECT PHASE 2 MITIGATION MONITORING AND REPORTING PROGRAM (continued)

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
improvements."					
Cultural Resources					
CULT -1: In the event that previously unknown cultural resources are uncovered during project implementation, all work shall cease in the vicinity of the find until it can be evaluated by a qualified archaeologist. • If the resource is found to be a historical or unique archaeological resource as defined in PRC Section 21084.1 and 21083.2(g), respectively, impacts to the resource shall be avoided during project implementation. Consistent with Section 15126.4(b)(3), this may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement. • If avoidance is not feasible, prior to issuing any grading or excavation permits and prior to any project-related ground disturbing activities, a detailed treatment plan shall be prepared and implemented by a qualified archaeologist in consultation with the County. Treatment of unique archaeological resources would follow the applicable requirements of Public Resources Code 21083.2. Treatment for most resources would consist of (but would not be not limited to) sample excavation, surface artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the significant resource to be impacted by the project. The treatment plan should include provisions for analysis of data in a regional context, reporting of results within a timely manner, curation of artifacts and data at an approved facility, and dissemination of reports to local and State repositories, libraries, and interested professionals.	• Include mitigation measure in construction contractor specifications. • If significant cultural resources are found, a qualified archaeologist shall be retained to verify contractor compliance. • If significant cultural resources are found, avoidance must occur. If avoidance is not feasible , a detailed treatment plan shall be prepared and implemented by a qualified archaeologist in consultation with the County. • Retain copy of and records of implementation of the treatment plan in the project file.	LACWWD40; Construction Contractor		X	
CULT-2: Prior to the start of project-related ground disturbing activities, a worker training program shall be implemented by a qualified archaeologist. The program	• Include mitigation measure in construction contractor specifications. • LACWWD40 shall retain a qualified	LACWWD40; Construction Contractor	X		

REGIONAL RECYCLED WATER PROJECT PHASE 2 MITIGATION MONITORING AND REPORTING PROGRAM (continued)

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
shall familiarize workers with the types of cultural resources that could be encountered during ground disturbance, and shall outline the procedures to be followed in the event of accidental discovery of cultural resources.	archaeologist to implement a worker training program. • Retain copies of the worker training program in the project file.				
CULT -3: LACWWD40 shall develop and implement a Paleontological Resource Monitoring and Mitigation Plan (PRMMP) prior to the onset of construction-related earth moving activities in order to either avoid or mitigate to a less-than-significant level the effects on paleontological resources. During earth-moving construction-related activities, additional previously-unknown fossil sites may be uncovered. The PRMMP must include mitigation protocol for discoveries as well. The PRMMP shall include provisions for the following: special consideration shall be made to collect sediment samples for potential fossiliferous locations as per the Society of Vertebrate Paleontology standards; stratigraphic cross-sections shall be recorded, mapping of the geologic units graphed, and fossil remains, cleaned, analyzed, and catalogued to be accepted for curation at a legal repository; all work must be conducted by a qualified Paleontologist and a final Report of Findings must be submitted upon completion of laboratory analysis.	• If significant paleontological resources are found, the qualified paleontological shall develop a PRMMP. • The paleontological monitors will have the authority determine when work can resume in the vicinity of the find. • Retain copy of PRMMP in the project file.	LACWWD40; Construction Contractor		X	
CULT -4: If human remains are uncovered during project construction, the Project proponent shall immediately halt work, contact the County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.4 (e)(1) of the CEQA Guidelines. If the County Coroner determines that the remains are Native American, the Project proponent shall contact the NAHC, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed	• Include mitigation measure in construction contractor specifications. • Retain records of all inadvertent discovery evaluations in the project file.	LACWWD40; Construction Contractor		X	

REGIONAL RECYCLED WATER PROJECT PHASE 2 MITIGATION MONITORING AND REPORTING PROGRAM (continued)

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.					
Geology, Soils, and Seismicity					
GEO-1: Prior to approval of construction plans for the project, a design-level geotechnical investigation, including collection of site specific subsurface data shall be completed by LACWWD40. The geotechnical investigation shall identify density profiles, approximate maximum shallow groundwater levels, a characterization of the vertical and lateral extent of the saturated sand/silt layers that could undergo liquefaction during strong ground shaking, and development of site-specific design criteria to mitigate potential risks. Recommendations made as a result of the investigation to protect new structures from seismic hazards shall become part of the proposed project	• Perform design level geotechnical investigation. • Include findings of geotechnical investigation design criteria in construction contractor specifications. • Retain the geotechnical investigation report in the project file	LACWWD40; Construction Contractor	X		
GEO-2: To control water and wind erosion during construction of the project, LACWWD40 shall prepare a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP shall prescribe temporary Best Management Practices (BMPs) to control wind and water erosion during and shortly after construction of the project and permanent BMPs to control erosion and sedimentation once construction is complete. The SWPPP would include soil erosion and sediment control measures that could include, but not be limited to, sediment barriers and traps, silt basins, and silt fences.	• Prepare a Stormwater Pollution Prevention Plan (SWPPP) and include in construction contractor specifications. • Appoint a construction monitor to perform site inspections to verify contractor compliance with the SWPPP.	LACWWD40; Construction Contractor		X	
GEO-3: Prior to approval of construction plans for the project, a design-level geotechnical investigation, including collection of site specific subsurface data shall be completed by LACWWD40. The investigation shall identify appropriate engineering considerations, as recommended by a certified engineering geologist or registered geotechnical engineer for planned facilities, including engineering considerations to mitigate the effects of expansive soils if found. Recommendations made as a result of the investigation to protect new	• Perform design level geotechnical investigation. • Include findings of geotechnical investigation design criteria in construction contractor specifications. • Retain the geotechnical investigation report in the project file	LACWWD40; Construction Contractor	X		

REGIONAL RECYCLED WATER PROJECT PHASE 2 MITIGATION MONITORING AND REPORTING PROGRAM (continued)

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
structures from expansive soils shall become part of the proposed project.					
Hazards and Hazardous Materials					
HAZ-1: LACWWD40 shall require the construction contractor(s) to implement best management practices (BMPs) for handling hazardous materials during the project. The use of the construction BMPs shall minimize negative effects on groundwater and soils, and will include, without limitation, the following: • Follow manufacturers' recommendations and regulatory requirements for use, storage, and disposal of chemical products and hazardous materials used in construction. • Avoid overtopping construction equipment fuel tanks. • During routine maintenance of construction equipment, properly contain and remove grease and oils. • Properly dispose of discarded containers of fuels and other chemicals.	• Include BMP's in construction contractor specifications. • Appoint a construction monitor to perform site inspections to verify contractor compliance with the BMP's.	LACWWD40; Construction Contractor		X	
HAZ-2: LACWWD40 shall require the construction contractor(s) to implement safety measures in accordance with General Industry Safety Orders for Spill and Overflow Control (CCR Title 8, Sections 5163-5167) to protect the project area from contamination due to accidental release of hazardous materials. The safety measures shall include, but not be limited to, the following: • Spills and overflows of hazardous materials shall be neutralized and disposed of promptly. • Hazardous materials shall be stored in containers that are chemically inert to and appropriate for the type and quantity of the hazardous substance. • Containers shall not be stored where they are exposed to heat sufficient enough to rupture the containers or cause leakage. • Specific information shall be provided regarding safe	• Includes safety measures in construction contractor specifications.	LACWWD40; Construction Contractor		X	

REGIONAL RECYCLED WATER PROJECT PHASE 2 MITIGATION MONITORING AND REPORTING PROGRAM (continued)

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
procedures and other precautions before cleaning or subsequent use or disposal of hazardous materials containers. Disposal of all hazardous materials shall be in compliance with applicable California hazardous waste disposal laws. The construction contractor shall contact the local fire agency and the County Department of Public Health, Environmental Health Division, for any site-specific requirements regarding hazardous materials or hazardous waste containment or handling.					
HAZ-3: In the event of an accidental release of hazardous materials during construction, containment and clean up shall occur in accordance with applicable regulatory requirements.	• Include reference to applicable regulatory requirements in contractor specifications.	LACWWD40; Construction Contractor		X	
HAZ-4: Oil and other solvents used during maintenance of construction equipment shall be recycled or disposed of in accordance with applicable regulatory requirements. All hazardous materials shall be transported, handled, and disposed of in accordance with applicable regulatory requirements.	• Appoint a construction monitor to perform site inspections to verify contractor compliance with the hazardous materials requirements.	LACWWD40; Construction Contractor		X	
HAZ-5: LACWWD40 shall require the construction contractor(s) to prepare a Site Safety Plan in accordance with applicable regulatory requirements.	• LACWWD40 shall review the Site Safety Plan. • Site Safety Plan shall be retained on construction site.	LACWWD40; Construction Contractor		X	
HAZ-6: LACWWD40 shall require the construction contractor(s) to prepare and implement a Safety Program to ensure the health and safety of construction workers and the public during project construction. The Safety Program shall include an injury and illness prevention program, as site-specific safety plan, and information on the appropriate personal protective equipment to be used during construction.	• LACWWD40 shall review the Site Safety Program. • Safety Program shall be retained on construction site.	LACWWD40; Construction Contractor		X	
HAZ-7: In the event that evidence of potential soil contamination, including soil discoloration, noxious odors, debris, or buried storage containers are encountered during construction, LACWWD40 shall require the construction contractor(s) to have a contingency plan for sampling and analysis of potentially	• Appoint a construction monitor to perform site inspections to verify contractor compliance with the hazardous materials requirements.	LACWWD40; Construction Contractor		X	

REGIONAL RECYCLED WATER PROJECT PHASE 2 MITIGATION MONITORING AND REPORTING PROGRAM (continued)

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
hazardous substances and coordination with the appropriate regulatory agencies, if necessary. The required handling, storage, and disposal methods shall depend on the types and concentrations of chemicals identified in the soil. Any site investigations or remedial actions shall comply with applicable laws					
HAZ-8: LACWWD40 shall coordinate with appropriate agencies (such as LAWA and FAA) and staff to ensure a safety program is developed and implemented during construction of the proposed project.	• LACWWD40 shall appoint a project manager to coordinate with all appropriate agencies.	LACWWD40; Construction Contractor		X	
HAZ-9: LACWWD40 shall require the construction contractor to coordinate with local fire agencies to develop a fire safety plan, which describes various potential scenarios and action plans in the event of a fire.	• Appoint a construction monitor to ensure coordination with local fire agencies.	LACWWD40; Construction Contractor		X	
HAZ-10: During construction, all staging areas, welding areas, or areas slated for development using spark-producing equipment shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the recycled water backbone, contractors shall require all vehicles and crews working at the project site to have access to functional fire extinguishers at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks	• Appoint a construction monitor to ensure sites are cleared of vegetation and ignitable materials.	LACWWD40; Construction Contractor		X	
Hydrology and Water Quality					
HYDRO-1: Applicable backflow prevention devices, as outlined in Title 17 shall be incorporated into pipeline design to avoid potential for cross contamination.	• Include reference to applicable regulatory requirements in contractor specifications.	LACWWD40; Construction Contractor		X	
HYDRO-2: Applicable minimum pipeline separation standards for potable and non-potable water pipelines, as outlined in Title 22, shall be incorporated into pipeline design to avoid potential for cross contamination.	• Include reference to applicable regulatory requirements in contractor specifications.	LACWWD40; Construction Contractor		X	

REGIONAL RECYCLED WATER PROJECT PHASE 2 MITIGATION MONITORING AND REPORTING PROGRAM (continued)

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
HYDRO-3: All recycled water pipelines shall be painted purple or marked distinctly with purple tape.	• Include reference to applicable regulatory requirements in contractor specifications.	LACWWD40; Construction Contractor		X	
HYDRO-4: Los Angeles County Department of Public Health (DPH), Cross Connection Control Program for Los Angeles County, shall be advised of each new site where recycled water is to be used prior to placing the site into service.	• LACWWD40 shall appoint a project manager to coordinate with all appropriate agencies.	LACWWD40; Construction Contractor		X	
HYDRO-5: All recycled water sites shall be inspected and tested for possible cross connections with the potable water system, in accordance with Sections 60314(3) and 60316(a), Title 22, California Code of Regulations.	• Include reference to applicable regulatory requirements in contractor specifications.	LACWWD40; Construction Contractor		X	
HYDRO-6: LACWWD40, in consultation with the Lahontan RWQCB, shall develop and implement a salt management plan, if needed in the future, to reduce the potential for salt and nutrient loading and minimize impacts to water quality in the Antelope Valley Groundwater Basin.	• LACWWD40 shall appoint a project manager to coordinate with all appropriate agencies.	LACWWD40; Construction Contractor		X	
HYDRO-7: LACWWD40 shall require the development and implementation of Recycled Water User Agreements with each recycled water end user. The Agreements shall include provisions that prohibit over-application of recycled water and fertilizer, such as requiring irrigation at agronomic rates to reduce the potential for runoff and increased nutrients into the groundwater basin.	• LACWWD40 shall appoint a project manager to coordinate with all appropriate agencies.	LACWWD40; Construction Contractor		X	
HYDRO-8: LACWWD40 shall conform with the requirements of the dewatering permits issued by the Lahontan RWQCB for dewatering activities, including WQO-2003-003-DWQ. The provisions of the permit may include treatment of flows prior to discharge. Additionally, if required, the LACWWD40 shall prepare a ROWD for the Lahontan Region Water Quality Control Board, under the General Waste Discharge Requirements R6T-2003-004, General Waste Discharge Requirements for Small Construction Projects. If the	• LACWWD40 shall appoint a project manager to coordinate with all appropriate agencies and implement requirements of all required permits.	LACWWD40; Construction Contractor		X	

REGIONAL RECYCLED WATER PROJECT PHASE 2 MITIGATION MONITORING AND REPORTING PROGRAM (continued)

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
LACWWD40 will have temporary or permanent impacts to waters of the State the LACWWD40shall prepare a ROWD shall quantify permanent and temporary impacts to waters of the State. The ROWD shall provide detailed Best Management Practices to address construction methods that would minimize erosion and protect water quality.					
HYDRO-9: LACWWD40 shall develop and implement a SWPPP using BMPs to minimize erosion and sedimentation. LACWWD40 shall include in contractor specifications that the contractor is responsible for developing the SWPPP. The SWPPP shall be maintained at the site for the entire duration of construction. The objectives of the SWPPP are to identify pollutant sources that may affect the quality of storm water discharge and to implement BMPs to reduce pollutants in storm water discharges. The SWPPP for the proposed project shall include, but not be limited to, the implementation of the following elements: • Identification of all pollutant sources, including sources of sediment that may affect the quality of storm water discharges associated with construction activity from the construction site; • Identification of non-storm water discharges; • Estimate of the construction area and impervious surface area; • Preparation of a site map and maintenance schedule for BMPs installed during construction designed to reduce or eliminate pollutants after construction is completed (post-construction BMPs); • Identification of all applicable erosion and sedimentation control measures, waste management practices, and spill prevention and control measures; • Maintenance and training practices; and, • A sampling and analysis strategy and sampling schedule for discharges from construction activities	• Prepare a Stormwater Pollution Prevention Plan (SWPPP) and include in construction contractor specifications. • Appoint a construction monitor to perform site inspections to verify contractor compliance with the SWPPP.	LACWWD40; Construction Contractor		X	

REGIONAL RECYCLED WATER PROJECT PHASE 2 MITIGATION MONITORING AND REPORTING PROGRAM (continued)

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
HYDRO-10: Prior to the commencement of grading or construction activities onsite, LACWWD40 shall obtain and comply with a California Department of Fish & Game, Streambed Alteration Agreement in accordance with Sections 1600-1616 of the California Fish & Game Code, as required.	• If required, LACWWD40 shall appoint a project manager to coordinate with all appropriate agencies and implement requirements of all required permits..	LACWWD40	X		
HYDRO-11: LACWWD40 shall include in contractor specifications that all disturbed areas are to be restored back to pre-construction conditions.	• Include reference to restoration of pre-construction conditions in contractor specifications.	LACWWD40		X	
HYDRO-12: LACWWD40 shall ensure adequately sized and located storm water capture facilities are incorporated into the final design for the storage tank and pump station facilities. Design features would either capture and infiltrate storm water onsite or transport storm water offsite.	• Include mitigation measure in construction contractor specifications.	LACWWD40		X	
HYDRO-13: LACWWD40 shall require flood diversion facilities to be incorporated into the storage tank and pump station site and facility design that would not increase flood risk in other areas.	• Include mitigation measure in construction contractor specifications.	LACWWD40		X	
Land Use and Land Use Planning					
LU-1: For project pipelines located along the Sierra Highway and Avenue P and the pump station occurring within an Airport Influence Area (AIA), LACWWD40 shall submit their proposed project plans to the Los Angeles County ALUC for review and comment prior to final design.	• LACWWD40 shall appoint a project manager to coordinate with all Los Angeles County ALUC.	LACWWD40	X		
LU-2: Prior to conducting construction activities within an AIA, for the project pipelines located along the Sierra Highway and Avenue P and the pump station, LACWWD40 shall prepare an airport construction safety plan that would identify best management practices. The plan would include, at a minimum, construction timeframes and hours, lighting and flagging requirements, air traffic control communication requirements, access and egress restrictions, equipment staging area requirements, and personal safety equipment requirements for construction workers, and	• LACWWD40 shall prepare an airport construction safety plan and appoint a project manager to coordinate with all Los Angeles County ALUC.	LACWWD40; Construction Contractor	X		

REGIONAL RECYCLED WATER PROJECT PHASE 2 MITIGATION MONITORING AND REPORTING PROGRAM (continued)

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
appropriate notification to aviators. The plan would be reviewed and approved by airport staff and implemented by both the airport and project construction staff.					
LU-3: Prior to final design of project pipelines located along the Sierra Highway and Avenue P and the pump station within an AIA, LACWWD40 shall identify the ground elevation associated with each project component and submit their project plans to airport staff for review and comment. Working with airport staff, LACWWD40 shall submit their design plans for airspace analysis (FAA Part 7460 review) to determine whether any of the proposed project components or proposed construction equipment would protrude into protected airspace. If such objects are identified, LACWWD40, airport staff, and FAA will identify appropriate steps to adjust project plans or include appropriate markings to identify hazards to aviators pursuant to FAA Part 7460.	• LACWWD40 shall include findings of ground elevations to airport staff.	LACWWD40	X		
LU-4: To prevent the creation of wildlife attractants, LACWWD40 shall coordinate with construction contractors to ensure that neither project design nor construction plans create temporary or permanent sources of open water, inappropriate seed mixtures, or inappropriate landscaping designs. Notes shall be incorporated on construction plans to warn against the creation of potential wildlife hazards	• Include mitigation measure in construction contractor specifications	LACWWD40; Construction Contractor	X		
Noise					
NOISE-1: LACWWD40 shall require its construction contractors to comply with the construction hours and days limitations established in local noise ordinances. Night-time construction would require approval from the City of Palmdale.	• Include mitigation measure in construction contractor specifications. • Retain implementation records in the project file.	LACWWD40; Construction Contractor		X	
NOISE-2: During construction of the proposed recycled water pipeline and storage tank, LACWWD40 shall require its construction contractors to implement procedures to reduce noise generated from project construction activities. Typical noise control procedures include the following: • Require all construction contractors to locate fixed	• Include mitigation measure in construction contractor specifications. •	LACWWD40; Construction Contractor		X	

REGIONAL RECYCLED WATER PROJECT PHASE 2 MITIGATION MONITORING AND REPORTING PROGRAM (continued)

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
construction equipment (e.g., compressors and generators) as far as possible from noise-sensitive receptors. • Equipment used in the construction of individual project components shall be muffled and maintained in good operating condition. Internal combustion engine-driven equipment shall be fitted with intake and exhaust mufflers that are in good condition. • Additional noise attenuating measures include changing the location of stationary construction equipment and/or staging areas; notifying adjacent residences and nearby sensitive receptors in advance of construction work; shutting off idling equipment; rescheduling construction activities; requiring on-going construction noise monitoring to assure adherence to City/County construction equipment standards; and/or installing temporary barriers around stationary construction noise sources.					
NOISE-3: To further address the nuisance noise impact of project construction, construction contractors shall implement the following: • Signs shall be posted at the construction site that include permitted construction days and hours, a day and evening contact number for the job site, and a contact number for the applicable jurisdiction agency in the event of problems. • An onsite complaint and enforcement manager shall track and respond to noise complaints.	• Include mitigation measure in construction contractor specifications. • Retain implementation records in the project file.	LACWWD40; Construction Contractor		X	
Transportation and Traffic					
TR-1: LACWWD40's construction contractor shall prepare and implement a Traffic Control/Traffic Management Plan subject to approval by the City of Palmdale and any other applicable local jurisdictions prior to construction. The plan shall: • Identify hours of construction and hours for deliveries; • Include a discussion of haul routes, limits on the length of open trench, work area delineation, traffic	• Include mitigation measure in construction contractor specifications. • Retain copy of the Traffic Control/Traffic Management Plant in the project file.	LACWWD40; Construction Contractor	X		

REGIONAL RECYCLED WATER PROJECT PHASE 2 MITIGATION MONITORING AND REPORTING PROGRAM (continued)

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
control and flagging; • Identify all access and parking restrictions, pavement markings and signage requirements (e.g., speed limit, temporary loading zones); • Maintain access to residence and business driveways at all times to the extent feasible; Minimize access disruptions to businesses and residences; • Layout a plan for notifications and a process for communication with affected residents and businesses prior to the start of construction. Advance public notification shall include posting of notices and appropriate signage of construction activities. The written notification shall include the construction schedule, the exact location and duration of activities within each street (i.e., which lanes and access point/driveways would be blocked on which days and for how long), and a toll-free telephone number for receiving questions or complaints; • Include a plan to coordinate all construction activities with emergency service providers in the area at least one month in advance. Emergency service providers shall be notified of the timing, location, and duration of construction activities. All roads shall remain passable to emergency service vehicles at all times; • Include the requirement that all open trenches be covered with metal plates at the end of each workday to accommodate traffic and access; and • Specify the street restoration requirements pursuant to agreements with the local jurisdictions.					
TR-2: LACWWD40 shall identify all roadway locations where special construction techniques (e.g., horizontal boring, directional drilling or night construction) will be used to minimize impacts to traffic flow	• Include mitigation measure in construction contractor specifications.	LACWWD40; Construction Contractor		X	
TR-3: LACWWD40 shall develop circulation and detour plans to minimize impact to local street circulation, including bikeways. This may include the use of signing and flagging to guide vehicles and cyclists through and/or around the construction zone.	• Include mitigation measure in construction contractor specifications.	LACWWD40	X		

REGIONAL RECYCLED WATER PROJECT PHASE 2 MITIGATION MONITORING AND REPORTING PROGRAM (continued)

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
TR-4: LACWWD40 shall encourage construction crews to park at offroad staging areas to limit lane closures in the public right-of-way.	• Include mitigation measure in construction contractor specifications.	LACWWD40; Construction Contractor		X	
TR-5: Peak travel periods shall be avoided when considering partial road closures.	• Include mitigation measure in construction contractor specifications. •	LACWWD40; Construction Contractor		X	
TR-6: LACWWD40 shall consult with the Antelope Valley Transit Authority at least one month prior to construction to coordinate bus stop relocations and to reduce potential interruption of transit service.	• Include mitigation measure in construction contractor specifications.	LACWWD40	X		
Utilities and Service Systems					
Implementation of Mitigation Measure **HYDRO-11**.		LACWWD40	X		
UTS-1: Project facility design and construction methods that produce less waste, or that produce waste that could more readily be recycled or reused shall be encouraged.	• Include mitigation measure in construction contractor specifications.	LACWWD40; Construction Contractor	X		
UTS-2: A requirement for the contractor to describe plans for recovering, reusing, and recycling wastes produced through construction, demolition, and excavation activities shall be included in construction specifications.	• Include mitigation measure in construction contractor specifications. • Retain copy of plans for recovering, reusing, and recycling wastes produced through construction, demolition, and excavation activities in the project file.	LACWWD40; Construction Contractor	X		

Appendix A
Air Quality Data

TABLE 7-1
LIST OF RECOMMENDED ACTIONS BY SECTOR

Measure No.	Measure Description	GHG Reductions (Annual Million Metric Tons CO2E)
Transportation		
T-1	Pavley I and II – Light Duty Vehicle Greenhouse Gas Standards	31.7
T-2	Low Carbon Fuel Standard (Discrete Early Action)	15
T-3[1]	Regional Transportation-Related Greenhouse Gas Targets	5
T-4	Vehicle Efficiency Measures	4.5
T-5	Ship Electrification at Ports (Discrete Early Action)	0.2
T-6	Goods Movement Efficiency Measures. • Ship Electrification at Ports • System-Wide Efficiency Improvements	3.5
T-7	Heavy-Duty Vehicle Greenhouse Gas Emission Reduction Measure – Aerodynamic Efficiency (Discrete Early Action)	0.93
T-8	Medium- and Heavy-Duty Vehicle Hybridization	0.5
T-9	High Speed Rail	1
Electricity and Natural Gas		
E-1	Energy Efficiency (32,000 GWh of Reduced Demand) • Increased Utility Energy Efficiency Programs • More Stringent Building & Appliance Standards Additional Efficiency and Conservation Programs	15.2
E-2	Increase Combined Heat and Power Use by 30,000 GWh (Net reductions include avoided transmission line loss)	6.7
E-3	Renewables Portfolio Standard (33% by 2020)	21.3
E-4	Million Solar Roofs (including California Solar Initiative, New Solar Homes Partnership and solar programs of publicly owned utilities) • Target of 3000 MW Total Installation by 2020	2.1
CR-1	Energy Efficiency (800 Million Therms Reduced Consumptions) • Utility Energy Efficiency Programs • Building and Appliance Standards • Additional Efficiency and Conservation Programs	4.3
CR-2	Solar Water Heating (AB 1470 goal)	0.1
Green Buildings		
GB-1	Green Buildings	26
Water		
W-1	Water Use Efficiency	1.4†
W-2	Water Recycling	0.3†
W-3	Water System Energy Efficiency	2.0†
W-4	Reuse Urban Runoff	0.2†
W-5	Increase Renewable Energy Production	0.9†
W-6	Public Goods Charge (Water)	TBD†
Industry		
I-1	Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	TBD
I-2	Oil and Gas Extraction GHG Emission Reduction	0.2
I-3	GHG Leak Reduction from Oil and Gas Transmission	0.9
I-4	Refinery Flare Recovery Process Improvements	0.3
I-5	Removal of Methane Exemption from Existing Refinery Regulations	0.01

12/28/2011 1:00:01 PM

Urbemis 2007 Version 9.2.4

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: C:\Users\tlw\Documents\Projects\LACWWD40\AQ Files\Lacwwd40 pipeline (12-28-11).urb924

Project Name: LACWWD40

Project Location: Los Angeles County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
Time Slice 11/5/2012-12/31/2012 Active Days: 41	**6.01**	**42.70**	**27.99**	**0.01**	**0.03**	**2.65**	**2.68**	**0.01**	**2.43**	**2.44**	**4,945.43**
Asphalt 11/05/2012-10/31/2014	3.08	18.41	13.12	0.00	0.01	1.60	1.61	0.00	1.47	1.47	1,823.15
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.01	18.27	10.98	0.00	0.00	1.59	1.59	0.00	1.46	1.46	1,539.60
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.89
Paving Worker Trips	0.06	0.12	2.13	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.66
Trenching 11/05/2012-10/31/2014	2.93	24.29	14.87	0.00	0.02	1.05	1.07	0.01	0.97	0.97	3,122.28
Trenching Off Road Diesel	2.84	24.12	12.04	0.00	0.00	1.04	1.04	0.00	0.96	0.96	2,749.39
Trenching Worker Trips	0.09	0.16	2.84	0.00	0.02	0.01	0.03	0.01	0.01	0.01	372.88
Time Slice 1/1/2013-12/31/2013 Active Days: 261	5.70	40.20	27.47	**0.01**	**0.03**	2.47	2.50	**0.01**	2.27	2.28	4,945.35
Asphalt 11/05/2012-10/31/2014	2.89	17.50	12.88	0.00	0.01	1.49	1.51	0.00	1.37	1.38	1,823.12
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.83	17.37	10.89	0.00	0.00	1.48	1.48	0.00	1.36	1.36	1,539.60
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.89
Paving Worker Trips	0.06	0.11	1.98	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.63
Trenching 11/05/2012-10/31/2014	2.81	22.70	14.59	0.00	0.02	0.97	0.99	0.01	0.90	0.90	3,122.23
Trenching Off Road Diesel	2.73	22.55	11.95	0.00	0.00	0.96	0.96	0.00	0.89	0.89	2,749.39
Trenching Worker Trips	0.08	0.15	2.64	0.00	0.02	0.01	0.03	0.01	0.01	0.01	372.84

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Time Slice 1/1/2014-10/31/2014 Active Days: 218	5.39	37.72	26.96	**0.01**	**0.03**	2.26	2.29	**0.01**	2.08	2.09	4,945.28
Asphalt 11/05/2012-10/31/2014	2.74	16.62	12.66	0.00	0.01	1.40	1.41	0.00	1.29	1.29	1,823.09
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.68	16.50	10.80	0.00	0.00	1.39	1.39	0.00	1.28	1.28	1,539.60
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.89
Paving Worker Trips	0.05	0.10	1.85	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.60
Trenching 11/05/2012-10/31/2014	2.65	21.10	14.30	0.00	0.02	0.86	0.88	0.01	0.79	0.80	3,122.19
Trenching Off Road Diesel	2.58	20.96	11.83	0.00	0.00	0.85	0.85	0.00	0.79	0.79	2,749.39
Trenching Worker Trips	0.07	0.14	2.46	0.00	0.02	0.01	0.03	0.01	0.01	0.02	372.80

Phase Assumptions

Phase: Trenching 11/5/2012 - 10/31/2014 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

2 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

2 Plate Compactors (8 hp) operating at a 0.43 load factor for 8 hours per day

4 Signal Boards (15 hp) operating at a 0.78 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 11/5/2012 - 10/31/2014 - Default Paving Description

Acres to be Paved: 1.33

Off-Road Equipment:

4 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

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

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

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Urbemis 2007 Version 9.2.4

Summary Report for Annual Emissions (Tons/Year)

File Name: C:\Users\tlw\Documents\Projects\LACWWD40\AQ Files\Lacwwd40 pipeline (12-28-11).urb924

Project Name: LACWWD40

Project Location: Los Angeles County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012 TOTALS (tons/year unmitigated)	0.12	0.88	0.57	0.00	0.00	0.05	0.05	0.00	0.05	0.05	101.38
2013 TOTALS (tons/year unmitigated)	0.74	5.25	3.58	0.00	0.00	0.32	0.33	0.00	0.30	0.30	645.37
2014 TOTALS (tons/year unmitigated)	0.59	4.11	2.94	0.00	0.00	0.25	0.25	0.00	0.23	0.23	539.04

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Urbemis 2007 Version 9.2.4

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: C:\Users\tlw\Documents\Projects\LACWWD40\AQ Files\lacwwd40 pump station (12-28-11).urb924

Project Name: lacwwd40 pump station

Project Location: Los Angeles County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
Time Slice 11/5/2012-12/31/2012 Active Days: 41	**3.23**	**27.58**	**13.75**	**0.01**	**236.14**	**1.27**	**237.41**	**49.32**	**1.16**	**50.49**	**3,908.30**
Mass Grading 11/05/2012-12/31/2012	3.23	27.58	13.75	0.01	236.14	1.27	237.41	49.32	1.16	50.49	3,908.30
Mass Grading Dust	0.00	0.00	0.00	0.00	236.10	0.00	236.10	49.31	0.00	49.31	0.00
Mass Grading Off Road Diesel	2.66	21.26	10.04	0.00	0.00	1.01	1.01	0.00	0.93	0.93	2,719.17
Mass Grading On Road Diesel	0.53	6.25	2.53	0.01	0.03	0.26	0.29	0.01	0.23	0.25	1,033.76
Mass Grading Worker Trips	0.04	0.07	1.18	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.37
Time Slice 1/1/2013-7/31/2013 Active Days: 152	2.20	17.54	8.14	0.00	0.00	0.81	0.81	0.00	0.75	0.75	2,454.03
Building 01/01/2013-07/31/2013	2.20	17.54	8.14	0.00	0.00	0.81	0.81	0.00	0.75	0.75	2,454.03
Building Off Road Diesel	2.20	17.54	8.14	0.00	0.00	0.81	0.81	0.00	0.75	0.75	2,453.24
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30

Phase Assumptions

Phase: Mass Grading 11/5/2012 - 12/31/2012 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 0.03

Maximum Daily Acreage Disturbed: 0.01

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 2000 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 243.9

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Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day

1 Plate Compactors (8 hp) operating at a 0.43 load factor for 8 hours per day

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

1 Water Trucks (189 hp) operating at a 0.5 load factor for 4 hours per day

Phase: Building Construction 1/1/2013 - 7/31/2013 - Default Building Construction Description

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 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day

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

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Urbemis 2007 Version 9.2.4

Summary Report for Annual Emissions (Tons/Year)

File Name: C:\Users\tlw\Documents\Projects\LACWWD40\AQ Files\lacwwd40 pump station (12-28-11).urb924

Project Name: lacwwd40 pump station

Project Location: Los Angeles County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012 TOTALS (tons/year unmitigated)	0.07	0.57	0.28	0.00	4.84	0.03	4.87	1.01	0.02	1.03	80.12
2013 TOTALS (tons/year unmitigated)	0.17	1.33	0.62	0.00	0.00	0.06	0.06	0.00	0.06	0.06	186.51

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Urbemis 2007 Version 9.2.4

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: C:\Users\tlw\Documents\Projects\LACWWD40\AQ Files\lacwwd40 storage tank (12-28-11).urb924

Project Name: lacwwd40 storage tank

Project Location: Los Angeles County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
Time Slice 11/5/2012-12/31/2012 Active Days: 41	6.25	**60.94**	**29.57**	**0.05**	**238.48**	**2.73**	**241.21**	**49.83**	**2.51**	**52.34**	**8,612.61**
Mass Grading 11/05/2012-01/04/2013	6.25	60.94	29.57	0.05	238.48	2.73	241.21	49.83	2.51	52.34	8,612.61
Mass Grading Dust	0.00	0.00	0.00	0.00	238.30	0.00	238.30	49.77	0.00	49.77	0.00
Mass Grading Off Road Diesel	3.58	29.54	15.72	0.00	0.00	1.45	1.45	0.00	1.33	1.33	3,276.97
Mass Grading On Road Diesel	2.64	31.33	12.67	0.05	0.17	1.28	1.45	0.06	1.18	1.23	5,180.27
Mass Grading Worker Trips	0.04	0.07	1.18	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.37
Time Slice 1/1/2013-1/4/2013 Active Days: 4	5.85	55.33	27.54	**0.05**	**238.48**	2.45	240.93	**49.83**	2.26	52.08	8,612.59
Mass Grading 11/05/2012-01/04/2013	5.85	55.33	27.54	0.05	238.48	2.45	240.93	49.83	2.26	52.08	8,612.59
Mass Grading Dust	0.00	0.00	0.00	0.00	238.30	0.00	238.30	49.77	0.00	49.77	0.00
Mass Grading Off Road Diesel	3.42	27.54	15.20	0.00	0.00	1.34	1.34	0.00	1.23	1.23	3,276.97
Mass Grading On Road Diesel	2.39	27.73	11.24	0.05	0.17	1.11	1.28	0.06	1.02	1.08	5,180.27
Mass Grading Worker Trips	0.03	0.06	1.10	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.35
Time Slice 1/7/2013-3/29/2013 Active Days: 60	1.64	9.13	6.53	0.00	0.00	0.59	0.60	0.00	0.55	0.55	1,102.39
Building 01/07/2013-04/19/2013	1.64	9.13	6.53	0.00	0.00	0.59	0.60	0.00	0.55	0.55	1,102.39
Building Off Road Diesel	1.63	9.07	6.40	0.00	0.00	0.59	0.59	0.00	0.54	0.54	1,076.05
Building Vendor Trips	0.01	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.39
Building Worker Trips	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.94

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Time Slice 4/1/2013-4/19/2013 Active Days: 15	44.49	9.16	6.97	0.00	0.00	0.60	0.60	0.00	0.55	0.55	1,164.53
Building 01/07/2013-04/19/2013	1.64	9.13	6.53	0.00	0.00	0.59	0.60	0.00	0.55	0.55	1,102.39
Building Off Road Diesel	1.63	9.07	6.40	0.00	0.00	0.59	0.59	0.00	0.54	0.54	1,076.05
Building Vendor Trips	0.01	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.39
Building Worker Trips	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.94
Coating 04/01/2013-04/26/2013	42.86	0.02	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.14
Architectural Coating	42.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.14
Time Slice 4/22/2013-4/26/2013 Active Days: 5	44.18	7.47	6.41	0.00	0.01	0.60	0.62	0.01	0.55	0.56	966.93
Asphalt 04/22/2013-04/26/2013	1.32	7.45	5.97	0.00	0.01	0.60	0.61	0.00	0.55	0.56	904.79
Paving Off-Gas	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.13	7.00	4.50	0.00	0.00	0.58	0.58	0.00	0.53	0.53	648.39
Paving On Road Diesel	0.03	0.37	0.15	0.00	0.00	0.01	0.02	0.00	0.01	0.01	69.99
Paving Worker Trips	0.04	0.07	1.32	0.00	0.01	0.01	0.01	0.00	0.00	0.01	186.42
Coating 04/01/2013-04/26/2013	42.86	0.02	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.14
Architectural Coating	42.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.14

Phase Assumptions

Phase: Mass Grading 11/5/2012 - 1/4/2013 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 0.92

Maximum Daily Acreage Disturbed: 0.23

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 2000 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 1222.22

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Scrapers (313 hp) operating at a 0.72 load factor for 8 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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1 Water Trucks (189 hp) operating at a 0.5 load factor for 4 hours per day

Phase: Paving 4/22/2013 - 4/26/2013 - Type Your Description Here
Acres to be Paved: 0.23
Off-Road Equipment:
4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 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

Phase: Building Construction 1/7/2013 - 4/19/2013 - Default Building Construction Description
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
2 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/1/2013 - 4/26/2013 - Default Architectural Coating Description
Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250
Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100
Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Summary Report for Annual Emissions (Tons/Year)

File Name: C:\Users\tlw\Documents\Projects\LACWWD40\AQ Files\lacwwd40 storage tank (12-28-11).urb924

Project Name: lacwwd40 storage tank

Project Location: Los Angeles County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012 TOTALS (tons/year unmitigated)	0.13	1.25	0.61	0.00	4.89	0.06	4.94	1.02	0.05	1.07	176.56
2013 TOTALS (tons/year unmitigated)	0.51	0.47	0.32	0.00	0.48	0.03	0.51	0.10	0.03	0.13	61.45

Appendix B

Biological Resources Technical Report

ESA

REGIONAL RECYCLED WATER PROJECT PHASE 2

Biological Resources Technical Report

Prepared for
Los Angeles County Waterworks District
No. 40

January 2012

ESA

REGIONAL RECYCLED WATER PROJECT PHASE 2

Biological Resources Technical Report

Prepared for
Los Angeles County Waterworks District No. 40

January 2012

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REGIONAL RECYCLED WATER PROJECT PHASE 2

Biological Resources Technical Report

1.0 Introduction

This Biological Resources Technical Report has been prepared to support California Environmental Quality Act/National Environmental Policy Act (CEQA/NEPA) documentation for Phase 2 of the North Los Angeles/Kern County Regional Recycled Water Project. The 2007 Antelope Valley *Integrated Regional Water Management Plan* (IRWMP) identifies the Regional Recycled Water Project because it addresses the need for both increased water supplies and wastewater effluent management. The environmental impacts for the Regional Recycled Water Projectwere evaluated in a Final Program Environmental Impact Report (PEIR) that was prepared by LACWWD40 as the Lead Agency, and adopted and certified in November 2008 (ESA, 2008). Although it was a Program EIR, the Final PEIR provided project-level assessments of some components of the Regional Recycled Water Project, including construction and operation of pipelines and municipal and industrial end uses of recycled water. Storage tanks and pump stations were evaluated at a program level, as were other recycled water end uses, such as power plant cooling water. All project components that were evaluated at a program level require additional environmental assessment and documentation prior to their implementation in order to be in compliance with the CEQA.

LACWWD40 would implement Phase 2 and therefore is preparing an Initial Study/Environmental Assessment (IS/EA) to demonstrate compliance with CEQA and its procedures and to determine if the Phase 2 components would result in new effects or require new mitigation measures in addition to those included in the Final PEIR.

2.0 Project Description

Los Angeles County Waterworks District No. 40, Antelope Valley (LACWWD40) proposes to implement Phase 2 of the Regional Recycled Water Project. Phase 2 would provide critical components of the primary backbone system to distribute recycled water in the Antelope Valley. Phase 2 involves the construction of recycled water conveyance pipelines, one pump station, and one steel storage tank for recycled water use. These components would be operated as part of the greater Regional Recycled Water Project, which will be owned and operated cooperatively by regional partner agencies, including LACWWD40, the City of Lancaster, the City of Palmdale,

Rosamond Community Services District (RCSD), Palmdale Water District (PWD), Antelope Valley-East Kern Water Agency (AVEK), and Quartz Hill Water District (QHWD).

3.0 Methods

3.1 Literature Review

The information and analysis presented in this report have been taken from the following sources:

- Final Program Environmental Impact Report for the North Los Angeles/Kern County Regional Recycled Water Project prepared by ESA (2008) for LACWWD40;
- Biological Technical Report for the North Los Angeles/Kern County Regional Recycled Water Project prepared by Bonterra Consulting (2008) for ESA;
- U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps: Soledad Mountain, Bissell, Rosamond, Rosamond Lake, Lancaster West, Lancaster East, Ritter Ridge, and Palmdale;
- California Department of Fish and Game's (CDFG) California Natural Diversity Database (CNDDB) record search for USGS 7.5-minute topographic quadrangle maps: Alpine Butte, Little Rock, Juniper Hills, Pacifico Mtn., Acton, Lancaster East , Lancaster West, Ritter Ridge, and Palmdale (CDFG 2011);
- Los Angeles County Significant Ecological Area Study prepared by England and Nelson Environmental Consultants (1976) for Los Angeles County Department of Regional Planning and Environmental Systems Research Institute;
- Various literature specific to descriptions of the habitat, vegetation types, and special status species occurring in the project region (see References); and
- Aerial photographs.

3.2 Biological Resources Reconnaissance Survey

ESA biologists Greg Ainsworth and Jon West, conducted a reconnaissance-level habitat assessment of the areas where Phase 2 improvements are to be staged on June 30, 2010. An additional survey was conducted on October 13, 2011 to assess new, proposed changes to the pipeline alignment along Amargosa Creek. Habitats and plant communities were characterized and any wildlife or sign observed was noted. No focused surveys for special-status species were performed due to the disturbed, urbanized nature of the project area and existing information documenting the distribution of special-status species in the vicinity.

4.0 Natural Resources Setting

The proposed project is located in the Antelope Valley, which encompasses approximately 2,400 square miles in northern Los Angeles County, southern Kern County, and western San Bernardino County (see, **Figure 1**). The Antelope Valley is situated within the western tip of the Mojave Desert, with Victor Valley and the Great Basin to the east, the San Gabriel Mountains to the south, and the Tehachapi Mountains to the northwest. The climate of the region can be characterized as arid desert, with average annual temperatures ranging from a high of 77.2˚ F to a low of 47.1˚ F (WRCC, 2010). The Palmdale area averages 7.6" of annual precipitation, with the majority of this amount accumulating as rain between the months of December to March (WRCC, 2010).

The physical improvements associated with Phase 2 of the proposed project would be located in the Cities of Palmdale and Lancaster, Los Angeles County. Pipelines would be constructed within the public right-of-way of City and County streets and across the Amargosa Creek channel. The proposed pump station would be located onsite at the Palmdale Water Reclamation Plant (PWRP), which is owned by Los Angeles County Sanitation District No. 20 (LACSD No. 20) and the proposed storage tank would be located adjacent to northbound State Route 14, between 10th Street West and Amargosa Creek on a parcel owned by LACWWD40. Prominent land uses in the area include the aerospace and agricultural industries. Land uses in the project area vary in degree of development and disturbance, including residential, commercial, industrial, institutional, agricultural, and open space. For the purpose of this report, the project area is defined as the areas of direct impacts and up to 500 feet on either side of the ROW. The project vicinity may include suitable species-specific habitats occurring outside of the ROW in the vicinity of the project area.

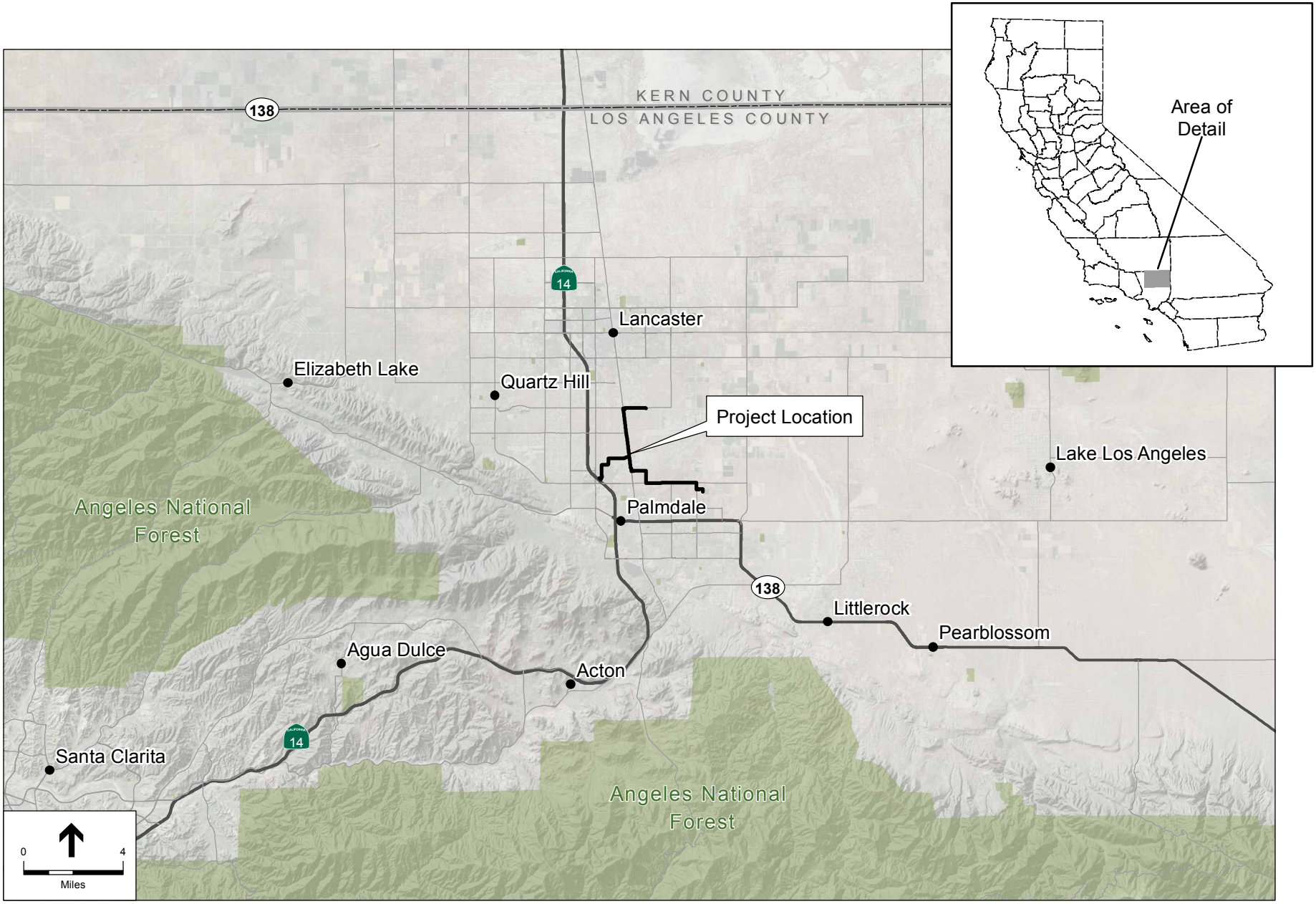
4.1 Plant Communities and Habitats

Areas of proposed pipeline placement are generally disturbed, with various scattered commercial and residential developments adjacent to the ROW. Undeveloped areas adjacent to the ROW mainly consist of native and nonnative ruderal vegetation, including black mustard (*Brassica nigra*), Russian thistle (*Salsola kali*), vinegarweed (*Trichostema lanceolatum*), and common nightshade (*Circaea alpine*). Native vegetation along and adjacent to portions of the ROW include rubber rabbitbrush (*Chrysothamnus nauseosus*), creosote (*Larrea tridentate*), fourwing saltbush (*Atriplex canescens*), California buckwheat (*Eriogonum fasciculatum*), and bursage (*Ambrosia sp.*). Several clusters of mature Joshua trees (*Yucca brevifolia*) occur with other associated native plant species adjacent to the ROW in undeveloped areas.

The area where the proposed pump station is located is an existing water reclamation plant which is permanently disturbed and devoid of vegetation and associated wildlife habitats. The area where the storage tank is located is highly disturbed and adjacent to an existing storage tank.

4.2 Wildlife

Disturbed, non-native habitats such as those which occur within the areas of Phase 2 improvements, generally provide low quality wildlife habitat; however, agricultural areas can provide high quality habitat for certain wildlife species (i.e., raptor foraging habitat). The desert scrub habitats adjacent to the project area provide potential habitat for a wide variety of lizards and snakes. Lizards that may occur in the project area include banded gecko (*Coleonyx variegatus*), desert iguana (*Dipsosaurus dorsalis*), common chuckwalla (*Sauromalus obesus*), Great Basin collared lizard (*Crotaphytus bicinctores*), long-nosed leopard lizard (*Gambelia wislizenii*), zebra-tailed lizard (*Callisaurus craconoides*), desert spiny lizard (*Sceloporus magister*), side-blotched lizard (*Uta stansburiana*), long-tailed brush lizard (*Urosaurus*



SOURCE: ESRI, 2010. ESA, 2011.

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Figure 1
Regional Map

graciosus), desert horned lizard (*Phrynosoma platyrhinos*), yucca night lizard(*Xantusia vigilis*), and western whiptail (*Cnemidophorus tigris*). Snake species that may occur include western blind snake (*Leptotyphlops humilis*), rosy boa (*Charina trivirgata*), spotted leafnosed snake (*Phyllorhynchus decurtatus*), coachwhip (*Masticophis flagellum*), western patchnosed snake (*Salvadora hexalepis*), glossy snake (*Arizona elegans*), gopher snake (*Pituophis melanoleucus*), common kingsnake (*Lampropeltis getulus*), long-nosed snake (*Rhinocheilus lecontei*), western shovel-nosed snake (*Chionactis occipitalis*), night snake (*Hypsiglena torquata*), speckled rattlesnake (*Crotalus mitchelli*), Mojave rattlesnake (*Crotalus scutulatus*), and sidewinder (*Crotalus cerastes*).

Some common bird species expected include California quail (*Callipepla californica*), greater roadrunner (*Geococcyx californianus*), ladder-backed woodpecker (*Picoides scalaris*), common raven (*Corvus corax*), verdin (*Auriparus flaviceps*), cactus wren (*Campylorhynchus brunneicapillus*), rock wren (*Salpinctes obsoletus*), and bewick's wren (*Thryomanes bewickii*). Raptor species expected to utilize agricultural areas for foraging include red-tailed hawk (*Buteo jamaicensis*), Cooper's hawk (*Accipiter cooperii*), ferruginous hawk (*Buteo regalis*), prairie falcon (*Falco mexicanus*), and northern harrier (*Circus cyaneus*). Additionally, burrowing owl (*Athene cunicularia*) is known to inhabit abandoned agricultural fields in the proposed project vicinity.

Amphibian species that may occur in the chaparral habitats in the vicinity of Palmdale and within undisturbed areas of Amargosa Creek include western toad (*Bufo boreas*), black-bellied salamander (*Batrachoseps nigriventris*), and California (*Pseudacris* [*Hyla*] *cadaverina*) and Pacific (*Pseudacris* [*Hyla*] *regilla*) treefrogs. The introduced bullfrog (*Rana catesbeiana*) is also expected to occur throughout the project area wherever permanent or semi-permanent surface water occurs.

4.3 Special-Status Species

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

- Species listed or proposed for listing as threatened or endangered, or are candidates for possible future listing as threatened or endangered, under the federal Endangered Species Act or the California Endangered Species Act;

- Species that meet the definitions of rare or endangered under CEQA (CEQA Guidelines Section 15380);
- Species covered under an adopted NCCP/HCP;
- Species considered "sensitive" by the BLM;
- Wildlife species of special concern to CDFG;
- Wildlife fully protected in California (CDFG Code Sections 3511, 4700, and 5050);
- A plant species considered by the CNPS to be "rare, threatened, or endangered in California" (CNPS List 1A, 1B, and 2) as well as CNPS List 3 and 4 plant species;
- A plant listed as rare under the California Native Plant Protection Act, and/or;
- Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region or is so designated in local or regional plans, policies, or ordinances;

Provided below in **Tables 1** and **2** is a list of special-status wildlife species and plant species, respectively, that have been previously recorded in the region to the CNDDB and which have potential to occur in the project area. A map depicting the approximate location of the recorded occurrences of these species is provided in **Figure 2**.

As a result of literature review and field surveys conducted for the project area, a total of 19 special-status wildlife species were identified as having the potential to occur within the project area, including two species of herpetofauna, 12 avian species, three terrestrial mammal species, one amphibian species, and one bat species. No fish species were observed in the project area during the habitat assessment. Of these 19 species, five are state- and/or federally listed. **Table 2,** below includes a list of five rare and special-status plants that have been recorded in the region of the project area and briefly describes the suitable habitat required for each plant species.

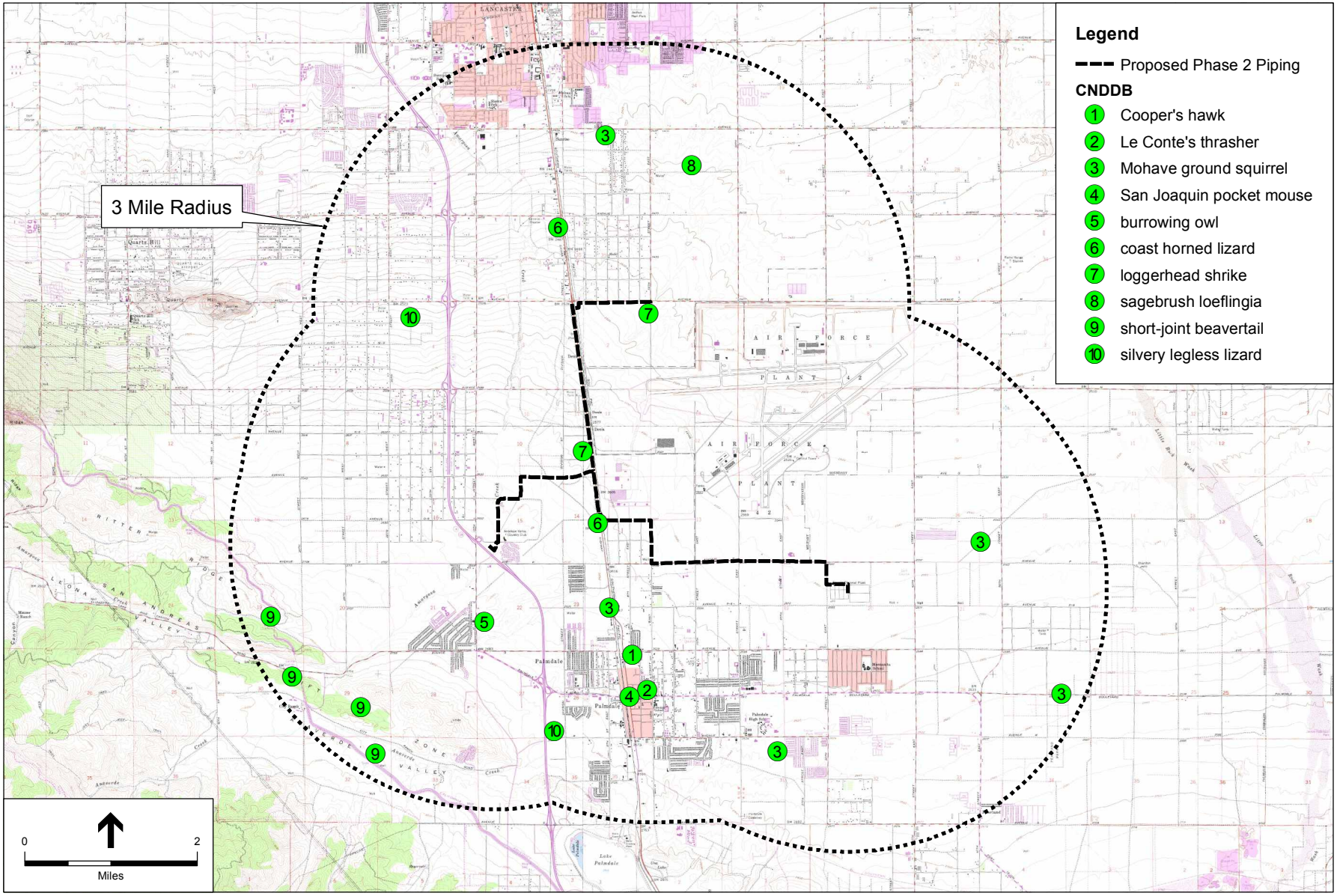
4.4 Drainages

There are portions of the proposed pipelines are to be placed adjacent to or across the Amargosa Creek; which is a riparian drainage and debris basin which drains the surrounding area to Rosamond Dry Lake Bed. All pipelines would be placed within the City of Palmdale's Amargosa Creek flood control channel or within the utility easement adjacent to the creek.

4.5 Jurisdictional Resources

Wetlands and permanent and intermittent drainages, creeks, and streams identified as waters of the US are generally subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps) under Section 404 of the Federal Clean Water Act. However, the Corps has determined that surface water features within the Antelope Valley are not considered waters of the US due to their isolation from navigable waters. Therefore, projects affecting surface waters and wetlands are not subject to Section 404 permitting.

Streambeds are subject to regulation by the CDFG under Section 1602 of the California Fish and Game Code. A stream is defined under these regulations 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. This definition includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation. CDFG jurisdiction typically extends to the edge of the riparian vegetation canopy. Under this definition, Amargosa Creek would fall under the jurisdiction of the CDFG under Section 1602 of the California Fish and Game Code.



SOURCE: California Department of Fish and Game, 2011, California Natural Diversity Database

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Figure 2

Special Status Species Occurrences within 3-Mile Radius of the Project Site

TABLE 1
SPECIAL-STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN PROJECT AREA

Species	Status: Federal/State	Preferred Habitat	Probability of Occurrence in Project Area
Amphibians			
California red-legged frog (*Rana draytonii*)	Threatened/Sp. of Special concern	Aquatic habitats, including artificial flowing and standing waters, freshwater marsh and swamps; riparian habitats.	Known to occur in Amargosa Creek drainage; Critical Habitat near west end of pipeline alignment on Elizabeth Lake Road. May occur in Amargosa drainage segment of pipeline.
Birds			
burrowing owl (*Athene cunicularia*)	BLM Sensitive/Sp. of Special Concern	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. A subterranean nester dependent upon burrowing mammals, particularly the California ground squirrel.	Known to occur within the vicinity of the project year-round. May nest in agricultural fields in surrounding area.
least Bell's vireo (*vireo bellii pusillus*)	Endangered/Endangered	Riparian forest, scrub, and woodland habitats. Nests primarily in willow riparian habitats.	Known to occur during summer in Amargosa Creek west of Palmdale; May occur rarely within vicinity of project; Marginally suitable nesting habitat in the Amargosa Creek drainage segment of the pipeline.
mountain plover (*Charadrius montanus*)	Proposed Threatened/Sp. of Special Concern	Chenopod scrub; valley and foothill grassland; prefers short grasslands and plowed fields.	Known to occur on agricultural fields during migration and winter within project vicinity; nests north of the region. Expected to occur on agricultural fields within vicinity of project; not expected to nest within vicinity of project area.
Le Conte's thrasher (*Toxostoma lecontei*)	Bird of Cons. Concern/Sp. of Special Concern	Resident of desert areas, primarily in open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats. Nests in dense, spiny shrub or densely branched cactus, usually 2-8 ft. above ground in desert wash habitat.	Expected to occur within vicinity of project area; may nest within vicinity of project where valley floor supports native desert scrub habitats.
loggerhead shrike (*Lanius ludovicianus*)	Bird of Cons. Concern/Sp. of Special Concern	Lowlands and foothills throughout California. Prefers open habitats with scattered shrubs, trees, posts, fences, and other perches.	Known to occur year-round in the project area; may nest in the vicinity. Occurrences recorded along portions of the Phase 2 pipeline area.

TABLE 1
SPECIAL-STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN PROJECT AREA

Species	Status: Federal/State	Preferred Habitat	Probability of Occurrence in Project Area
prairie falcon (*Falco mexicanus*)	-/DFG Watch List	Dry, open terrain. Forages in a wide variety of habitats, including deserts, grasslands, marshlands, and ocean shores. Nests in cliffs.	Known to occur for foraging throughout open spaces (native and non-native habitats) of project vicinity; expected to occur within vicinity of project area year-round.
tricolored blackbird (*Agelaius tricolor*)	Bird of Cons. Concern/Sp. of Special Concern	A highly colonial species, most numerous in the Central Valley and vicinity. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km. of colony.	Expected to occur for foraging within vicinity of project area in grassland and agricultural fields; not expected to nest within vicinity of project area due to lack of marsh habitats.
Cooper's hawk *(Accipiter cooperii)*	-/DFG Watch List	Nests in woodlands and sometimes suburban settings if mature trees are present. Broken woodlands or near habitat edges with the exception of their desert occurrences; seldom found in areas that do not have dense, or patchy, wooded areas. Occurs in dense stands of live oak, riparian deciduous, or other forest habitats near water.	Expected to occur within vicinity of the project during migration and winter; expected to be rare in summer but may nest within vicinity of project area where groves of trees exist.
ferruginous hawk *(Buteo regalis)*	-/ DFG Watch List	Winters at lower elevations and open grasslands, agricultural areas in southwestern California, sagebrush flats, desert scrub, low foothills surrounding valleys, and the edges of pinyon-juniper habitats.	Expected to occur within vicinity of project during migration and winter; not expected to nest within vicinity of the project area.
merlin *(Falco columbarius)*	-/DFG Watch List	Open habitat at low elevations. Rare winter migrant in the Mojave Desert. Riparian environments, coastlines, open grasslands, savannahs, woodlands, lakes, and wetlands.	Known to occur for foraging throughout open spaces (native and non-native habitats) of the vicinity of the project during migration and winter; nests to north of the region. May occur within vicinity of project area during migration and winter; not expected to nest within vicinity of project.

TABLE 1
SPECIAL-STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN PROJECT AREA

Species	Status: Federal/State	Preferred Habitat	Probability of Occurrence in Project Area
northern harrier *(Circus cyaneus)*	-/Sp. of Special Concern	Nests on the ground and forages for small mammals in grasslands, pastures, meadows, open rangeland, desert sinks, fresh and saltwater wetlands, and wooded areas.	Known to occur throughout open spaces (native and non-native habitats) of project vicinity year-round; rare in summer; Expected to occur within vicinity of project vicinity during migration and winter; may occur in summer.
Swainson's hawk *(Buteo swainsoni)*	BLM Sensitive/Threatened	Stands with few trees, juniper-sage flats, riparian habitat, and oak savannah. Forages in adjacent grasslands and agricultural fields and pastures.	Known to occur during migration within project vicinity as rare migrant; requires groves of trees for nesting; rare nester within project vicinity.
Mammals			
pallid bat (*Antrozous pallidus*)	BLM Sensitive/Sp. of Special Concern	Occurs throughout California at low elevations; Occupies a wide variety of habitats including grasslands, shrublands, woodland's, and coniferous forests; most common in open, dry habitats with rocky areas for roosting.	May occur in project area for foraging and roosting.
Mohave ground squirrel (*Spermophilus mohavensis*)	BLM Sensitive/Threatened	Open desert scrub, alkali scrub, and Joshua tree woodland. Endemic to the Mojave Desert. Prefers sandy-to-gravelly soils and avoids rocky places. Finds cover and nests in burrows at the base of shrubs.	Native habitats provide potentially suitable habitat in project vicinity within known range of species. Not expected to occur due to lack of suitable, native habitat within Phase 2 project vicinity.
southern grasshopper mouse (*Onychomys torridus ramona*)	-/Sp. of Special Concern	Occurs in arid desert habitats of the Mojave Desert and southern Central Valley. Prefers alkali desert scrub and desert scrub habitats.	May occur within vicinity of project area where native habitats exist.
San Joaquin pocket mouse (*Perognathus inornatus*)	BLM Sensitive/-	Occurs in arid habitats. Forages under and within shrubs and crosses open areas.	May occur in native shrubland or agricultural fields in project vicinity. CNDDB occurrences have been recorded within a 3-mile radius to the south of the project area.

TABLE 1
SPECIAL-STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN PROJECT AREA

Species	Status: Federal/State	Preferred Habitat	Probability of Occurrence in Project Area
Reptiles			
Coast horned lizard (*Phyrnosoma blainvillii*)	BLM Sensitive/Sp. of Special Concern	A wide variety of habitats, most common in sandy washes with scattered, low bushes. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	High potential to occur within project area. CNDDB occurrences have been recorded along portion s of the Sierra Highway near where Phase 2 improvements are to be staged.
silvery legless lizard (*Anniella pulchra pulchra*)	-/Sp. of Special Concern	Chaparral; coastal dunes; coastal scrub.	Native habitats at base of San Gabriel Mountains provide potentially suitable habitat and within known range of species. Not expected to occur in areas of Phase 2 improvements due to lack of suitable habitat.

TABLE 2
RARE PLANTS WITH POTENTIAL TO OCCUR IN PROJECT AREA

Species	Status/C NPS List	Growth Habit	Elevation (m)	Habitat	Flowering Period
Astragalus preussii var. *laxiflorus* Lancaster milk-vetch	-/1B.1	Perennial herb	700	Found on alkaline flats in the southwest Mojave Desert	March-May
Calochortus striatus alkali mariposa lily	-/1B.2	Bulbiferous herb	70-1595	Found at moist alkali places in desert habitats. Many occurrences documented during and after the 1980s in Lancaster, Rosamond Lake area, etc, often in desert scrubs along roads and railroad tracks in project vicinity.	April-June
Loeflingia squarrosa var. *brachyclada* sagebrush loeflingia	-/2.2	Annual herb	700-1615	Found in sand dunes and sandy flats in the Mojave Desert. Recorded in 2005 in gravel quarry north of Pearblossom Highway.	April-May

TABLE 2
RARE PLANTS WITH POTENTIAL TO OCCUR IN PROJECT AREA

Species	Status/C NPS List	Growth Habit	Elevation (m)	Habitat	Flowering Period
Canbya candida white pygmy-poppy	-/4.2	Annual herb	600-1460	Found in sandy soils in creosote bush scrub and Joshua tree woodland in western Mojave desert. Recorded in 1965 in Joshua tree woodland/saltbush scrub near Buckhorn Lake, Edwards Airforce Base.	March-June
Opuntia basilaris var. *brachyclada* short-joint beavertail	-/1B.2	Perennial stem succulent	425-1800	Found on dry slopes in Joshua tree woodland habitat and desert slopes of San Gabriel Mountains. Recorded in 1989 in project vicinity near Pearlblossom Highway and west of Palmdale.	April-August

4.6 Connectivity and Migration Corridors

Habitat linkages are contiguous areas of open space that connect two larger habitat areas. Linkages provide for both diffusion and dispersal for a variety of species within the landscape. In addition, linkages can serve as primary habitat for some smaller species. Corridors are linear linkages between two or more habitat patches. Corridors provide for movement and dispersal, but do not necessarily include habitat capable of supporting all life history requirements of a species.

Open space areas within the proposed project area are highly fragmented by existing development. Prominent features that are expected to convey wildlife movement include drainages, in particular Amargosa Creek. Amargosa Creek follows the San Andreas Rift Zone to Palmdale where it turns to the north, essentially following State Highway 14, before draining into the Piute Ponds near Rosamond Lake. Amargosa Creek is severely fragmented by existing development in the City of Lancaster and the City of Palmdale and not expected to support regional wildlife movement. In addition, the foothills of the San Gabriel Mountains are expected to support regional wildlife movement east and west and generally to the south of the proposed project components.

5.0 Regulatory Framework

The proposed project is subject to a number of federal, state, and local regulations regarding biological resources. A summary of the primary regulations pertaining to the Project is provided below.

5.1 Federal

Federal Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS) in the Department of the Interior, has responsibility for administration of the federal Endangered Species Act (FESA). The FESA provides broad protection for species of fish, wildlife and plants that are listed as threatened or endangered in the United States or elsewhere. The FESA has four major components: 1) provisions are made for listing species, 2) requirements for federal agency consultation with USFWS or NMFS, 3) prohibitions against "taking" of listed species, and 4) the provisions for permits that allow incidental "take" of listed species for otherwise lawful activities. The FESA also requires the preparation of recovery plans and the designation of critical habitat for listed species.

The Migratory Bird Treaty Act of 1918

The Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-711) makes it unlawful to possess, buy, sell, purchase, barter or "take" any migratory bird listed in Title 50 of the Code of Federal Regulations Part 10. "Take" is defined as possession or destruction of migratory birds, their nests or eggs. Disturbances that cause nest abandonment and/or loss of reproductive effort or the loss of habitats upon which these birds depend may be a violation of the Migratory Bird Treaty Act.

Clean Water Act Section 404

Wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water, and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and floodwaters, and water recharge, filtration, and purification functions. Technical standards for delineating wetlands have been developed by the Corps which generally define wetlands through consideration of three criteria: hydrology, soils, and vegetation. Under Section 404 of the Clean Water Act (CWA), the Corps is responsible for regulating the discharge of dredged or fill material into waters of the United States. The term "waters" includes wetlands and non-wetland bodies of water that meet specific criteria as defined in the Code of Federal Regulations. The Corps has indicated that the isolated washes within the Antelope Valley watershed are not considered navigable water of the U.S. as defined in the CWA and therefore are not within their jurisdiction to regulate under Section 404 of the CWA.

5.2 State

California Endangered Species Act

The California Endangered Species Act (CESA) is similar to the main provisions of the FESA and is administered by the California Department of Fish and Game (CDFG). Unlike its federal counterpart, CESA applies the take prohibitions to not only listed threatened and endangered species, but also to state candidate species for listing. Section 86 of the Fish and Game Code defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The CDFG maintains lists for Candidate-Endangered Species and Candidate-Threatened Species, which have the same protection as listed species. Under CESA the term "endangered species" is defined as a species of plant, fish, or wildlife, which is "in serious danger of becoming extinct throughout all, or a significant portion of its range" and is limited to species or subspecies native to California.

Clean Water Act Section 401 Certification or Waiver, and State Discharge Permit under the Porter-Cologne Act

The State of California (State) regulates water quality related to discharge of fill material into waters of the State pursuant to Section 401 of the Clean Water Act. Section 401 compliance is a federal mandate regulated by the State. The local Regional Water Quality Control Boards (RWQCB) have jurisdiction over all those areas defined as jurisdictional under Section 404 of the CWA. In addition, the State regulates water quality for all waters of the State, that may also include isolated wetlands as defined under the California Porter-Cologne Water Quality Control Act (Porter Cologne; Ca. Water Code, Div. 7, §13000 et seq.). The RWQCB regulates discharges that can affect water quality, even if there is no significant nexus to a traditional navigable water body required for Corps determination of jurisdiction over waters of the US. In such instances, a Waste Discharge Permit is required to comply with the Porter-Cologne Water Quality Control Act even though the federal Clean Water Act, including Section 401 water quality certifications or Section 404 permits, would not apply.

Section 1602 Lake and Streambed Alteration Agreement

Jurisdictional authority of the CDFG over the bed, bank, or channel of a river, stream, or lake is established under Section 1600 *et. seq.* of the Fish and Game Code, which pertains to activities that would disrupt the natural flow or alter the channel, bed, or bank of any lake, river, or stream. The Fish and Game Code stipulates that it is unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream, or lake resulting in a substantial effect on a fish or wildlife resource without notifying the CDFG and completing the Streambed Alteration Agreement process.

5.3 Local

Los Angeles County Significant Ecological Areas (SEAs)

As part of the General Plan Conservation/Open Space and Land Use elements, the County had identified and adopted policies for SEAs. The purpose of establishing an SEA is to maintain biological diversity by establishing natural biological parameters, including species, habitat types, and linkages. The County General Plan includes recommended management practices for each SEA. The Antelope Valley SEA is located in the vicinity and generally to the east of the proposed project area.

Palmdale Native Plant Ordinance

The Joshua Tree and Native Desert Vegetation Preservation Ordinance (Chapter 14.04 of Title 14 of the Palmdale Municipal Code) applies to all public and private property which contains Joshua trees or other desert vegetation including California juniper. For development in these areas, a proposal application would be necessary, including a desert vegetation preservation plan which depicts the location of each Joshua tree and California juniper, details tree age and health, and describes which can be saved and maintained on the site or relocated. A permit must be obtained from the City of Palmdale's landscape architect prior to removal of protected vegetation.

6.0 Impacts Discussion

This section discusses the direct, indirect, and cumulative impacts to biological resources that may occur as a result of implementation of Phase 2 of the Project. Under the stipulations of CEQA, potential impacts to biological resources could be considered significant if actions associated with 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.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service.

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.

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

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

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat

conservation plan.

Construction and operation of Phase 2 of the Project could impact plants and wildlife in a variety of ways. Construction activities could result in mortality or harm to sensitive species or displace wildlife and would result in the loss of habitat for plant and wildlife species.

6.1 Special-Status Wildlife Species

This section describes special-status wildlife species that are known, or have a high potential to occur in the proposed project area and the status of their presence based on field surveys and documented references. Of the 18 special-status wildlife species analyzed in the project area, nine were determined to have a high potential to occur in the project area and thus have potential to be impacted by Phase 2 of the Project. They are described in detail below:

Loggerhead Shrike

Loggerhead shrike (*Lanius ludovicianus*) is a common resident and winter visitor in lowlands and foothills throughout California. This species prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. Highest density occurs in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats. Occurs only rarely in heavily urbanized areas, but often found in open cropland. Sometimes uses edges of denser habitats. Loggerhead shrikes frequent open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low or sparse herbaceous cover. This species often uses shrubs or small trees for cover. Shrikes build nests on stable branches in densely-foliated shrubs or trees, usually well-concealed. Eats mostly large insects, but also takes small birds, mammals, amphibians, reptiles, fish, carrion, and various other invertebrates. Shrikes frequently skewer prey on thorns, sharp twigs, wire barbs, or forces it into a crotch to feed or cache for later.

Loggerhead shrike is a California Species of Special Concern and a federal Bird of Conservation Concern. Although this species was not observed during the biological resources reconnaissance survey, CNDDB occurrences have been recorded along potions of the Phase 2 pipeline area. Thus, this species has a high potential to occur and/or nest in the project area. Potential impacts to loggerhead shrike would be avoided and/or reduced to a level less than significant with implementation of the recommended mitigation measures described in **Section 7.1**, below.

Burrowing Owl

Burrowing owl (*Athene cunicularia*) is a yearlong resident of open, dry grassland and desert habitats, and in grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats. In southern California this species is most common in open grasslands and shrublands, particularly agricultural areas, with available perches and burrows. This species was formerly common in appropriate habitats throughout the California, excluding the humid northwest coastal forests and high mountains. Burrowing owls eat mostly insects, but also prey upon small mammals, reptiles, birds, and carrion. Burrowing owls use rodent or other burrows for roosting and nesting cover.

Burrowing owl is a California Species of Special Concern and a BLM Sensitive species. Conversion of grassland to agriculture, other habitat destruction, and poisoning of ground squirrels have contributed to the reduction in numbers in recent decades, which was noted in the 1940s, and earlier (Grinnell and Miller 1944, Zarn 1974a, Remsen 1978). Predators include prairie falcons, red-tailed hawks, Swainson's hawks, ferruginous hawks, northern harriers, golden eagles, foxes, coyotes, and domestic dogs and cats. Fleas, lice, and feather mites are common ectoparasites. Collisions with autos may be a significant cause of mortality. The potential for burrowing owls to be present in the project area is considered to be moderate to high, and any impacts to burrowing owls would be considered significant. Potential impacts to burrowing owl would be avoided and/or reduced to a level less than significant with implementation of the recommended mitigation measures described in **Section 7.1**, below.

Ferruginous Hawk

Ferruginous hawk (*Buteo regalis*) is an uncommon winter resident and migrant at lower elevations and open grasslands in the Modoc Plateau, Central Valley, and Coast Ranges. This species is a fairly common winter resident of grasslands and agricultural areas in southwestern California, and a casual resident in the northeast during the summer. Ferruginous hawks frequent open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats. This species roosts in open areas, usually in a lone tree or utility pole. It searches for prey from low flights over open, treeless areas, and glides to intercept prey on the ground. Ferruginous hawks prey on lagomorphs, ground squirrels, mice, and small birds, reptiles, and amphibians.

Ferruginous hawk is on the CDFG's Watch List. Urban development may contribute to a loss of suitable wintering habitat in southern California. Although this species was not observed during the biological resources reconnaissance survey and no known CNDDB occurrences have been recorded in the area, this species is known to compete with other locally-occurring raptor species and may forage in suitable habitat in the vicinity of the project area. Potential impacts to ferruginous hawk would be avoided and/or reduced to a level less than significant with implementation of the recommended mitigation measures described in **Section 7.1**, below.

Le Conte's Thrasher

Le Conte's thrasher (*Toxostoma lecontei*) is an uncommon to rare, local resident in southern California deserts from southern Mono County south to the Mexican border, and in western and southern San Joaquin Valley. This species occurs primarily in open desert wash, desert scrub, alkali desert scrub, and desert succulent shrub habitats; also occurs in Joshua tree habitat with scattered shrubs. It frequents desert washes and flats with scattered shrubs and large areas of open, sandy, or alkaline terrain in desert wash, desert shrub, alkali desert scrub, and desert succulent shrub habitats. It uses scattered desert shrubs and cactus for cover; frequently saltbush and cholla. Le Conte's thrasher feed primarily on a variety of insects and other terrestrial arthropods, and occasionally on seeds, small lizards, and other small vertebrates.

Le Conte's thrasher is a California Species of Concern and a federal Bird of Conservation Concern. This species is often exceptionally wary of humans and is vulnerable to off-road vehicle activity, other disturbances, and removal of shrubs for agricultural and other development. Le Conte's thrasher may occur in relatively undisturbed areas of Amargosa Creek or other undisturbed washes in the project vicinity. Potential impacts to Le Conte's thrasher would be avoided and/or reduced to a level less than significant with implementation of the recommended mitigation measures described in **Section 7.1**, below.

Prairie Falcon

Prairie falcon (*Falco mexicanus*) is an uncommon permanent resident that ranges from southeastern deserts northwest throughout the Central Valley and along the inner Coast Ranges and Sierra Nevada. Distributed from annual grasslands to alpine meadows, but associated primarily with perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub areas. This species uses open terrain for foraging. It usually nests in a scrape on a sheltered ledge of a cliff overlooking a large, open area, and sometimes uses old raven or golden eagle stick nests on cliffs, bluffs, or rock outcrops. It eats mostly small mammals, some birds, and reptiles. The prairie falcon catches prey in the air or on the ground in open areas.

The prairie falcon is on the CDFG Watch List. This species is vulnerable to DDE poisoning. Egg and nestling predation can occur at sites accessible to mammal predators, great horned owls, and golden eagles. Although this species was not observed during the biological resources reconnaissance survey and no known CNDDB occurrences have been recorded in the area, this species is known to compete with other locally-occurring raptor species and may forage in suitable habitat in the vicinity of the project area. Potential impacts to prairie falcon would be avoided and/or reduced to a level less than significant with implementation of the recommended mitigation measures described in **Section 7.1**, below.

Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is an uncommon breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen Co., and Mojave Desert. Very limited breeding reported from Lanfair Valley, Owens Valley, Fish Lake Valley, and Antelope Valley (Bloom 1980, Garrett and Dunn 1981). This species breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley and forages in adjacent grasslands or suitable grain or alfalfa fields, or livestock pastures. In southern California, this species is mostly limited to spring and fall transients. Typical habitat for this species is open desert, grassland, or cropland containing scattered, large trees or small groves. It roosts in large trees, but will roost on the ground if none available. Swainson's hawks nest on a platform of sticks, bark, and fresh leaves in a tree, bush, or utility pole often in riparian habitat in scattered trees or small groves in sparsely vegetated flatlands. This species eats mice, gophers, ground squirrels, rabbits, large arthropods, amphibians, reptiles, birds, and, rarely, fish. It soars at low and high levels in search of prey, and may also walk on the ground to catch invertebrates and other prey. It also is known to catch insects and bats in flight.

Swainson's hawk is a State Threatened species and a BLM Sensitive species. Migrating individuals move south through the southern and central interior of California in September and October, and north March through May. Some individuals migrate as far south as South America, passing in large flocks through Central America (Brown and Amadon, 1968). Swainson hawk nesting habitat in southern California has sharply declined in recent decades, mostly due to urbanization and other human developments. This species may occur in the project vicinity as a rare migrant. No suitable nesting habitat occurs within the project area. Potential impacts to Swainson's hawk would be avoided and/or reduced to a level less than significant with implementation of the recommended mitigation measures described in **Section 7.1**, below.

Northern Harrier

The northern harrier (*Circus cyaneus*) is fairly common raptor distributed throughout North America and Eurasia. Northern harriers breed from northern Alaska and Canada, south into roughly the northern two-thirds of the western United States, and the northern one-third of the eastern United States. Wintering harriers utilize the southern portion of the breeding range and extend farther south into Central America. Harriers breed in marshes and grasslands and forage in grasslands, agricultural fields, wetlands, and open coastal sage scrub. Home ranges and breeding territories are variable in size and probably reflect differing habitat resources. Harriers have declined in California in recent decades but can be locally abundant where suitable habitat remains free of disturbance, especially from intensive agriculture. The breeding population, especially in coastal southern California, is reduced because of destruction of native wetland, meadow, and grassland habitats, and burning and plowing of nesting areas during early stages of the breeding cycle (Remsen 1978).

Northern harrier is a California Species of special Concern. This species is a ground nester under low vegetation and is not expected to nest within the project area due to a lack of suitable habitat and existing disturbances in the area. Potential impacts to northern harrier would be avoided and/or reduced to a level less than significant with implementation of the recommended mitigation measures described in **Section 7.1**, below.

Cooper's Hawk

Cooper's hawk (*Accipiter cooperii*) is a breeding resident throughout most of the wooded portions of the California. This species breeds in the southern Sierra Nevada foothills, New York Mts., Owens Valley, and other local areas in southern California. It prefers dense stands of live oak, riparian deciduous or other forest habitats. It also frequents landscapes where wooded areas occur in patches and groves, including patchy woodlands and edges with snags for perching. Cooper's hawks nest in dense stands with moderate crown-depths. This species catches small birds, especially young during the nesting season. They will also take small mammals, reptiles, and amphibians. This species often hunts in broken woodland and habitat edges.

Cooper's hawk is on the CDFG Watch List. Breeding numbers in southern California have been reduced in recent decades. This species may occur within the vicinity of the

project area during migration and winter, and rarely in the summer. It may also nest in the vicinity of the project area where groves of trees exist.

California Red-Legged Frog

California red-legged frog (*Rana draytonii*) is an aquatic frog found at sites with permanent or semi permanent water. However, given the choice, many of this species will prefer to remain near permanent water bodies during dry periods. If water is unavailable, they will seek shelter from dehydration in a variety of refuges, including beneath boulders, downed wood, moist leaf litter, and within small mammal burrows. California red-legged frogs generally attach their eggs to emergent vegetation or other in-water structures in standing or slow-moving water, but are also known to breed in unvegetated pools. Adults will consume essentially any invertebrate or vertebrate prey they can capture.

California red-legged frog is a state Species of Special Concern and a federally Threatened species. Populations of this species have been declining due to reductions in suitable habitat mostly due to urbanization and the damming of permanent or semi-permanent streams. This species is known to occur in Amargosa Creek drainage, and Critical Habitat is located near the west end of the pipeline not associated with Phase 2 of the alignment on Elizabeth Lake Road. Although highly unlikely due to the absence of a permanent source of water, this species may occur in the Amargosa Creek in the project vicinity if conditions allow.

Coast Horned Lizard

The coast horned lizard (*Phrynosoma blainvillii*) is distributed throughout the coast of southern California and into northern Baja, Mexico. This species prefers open areas of sandy soil with low vegetation in valleys, foothills and semiarid mountains. Its primary food source is harvester ants, native to the southern California region; this specialty diet is intimately related to its subsequent decline in southern California. The rapid urbanization of the southern California region has facilitated the invasion of the Argentine ant which is associated with residential areas. These ants displace the native harvester ants and thus, there is less food available for the coast horned lizard.

Coast horned lizard is a California Species of Special Concern and a BLM Sensitive species. Although this species was not observed during the biological resources reconnaissance survey, CNDDB occurrences have been recorded along portions of the Sierra Highway near where Phase 2 improvements are to be staged. This species thus has a high potential to occur within the project area. Potential impacts to coast horned lizard, however, would be reduced to a level less than significant with implementation of recommended mitigation measures described in **Section 7.3,** below.

Silvery Legless Lizard

The silvery legless lizard (*Anniella pulchra pulchra*) is a very small, slender lizard with smooth scales and no legs. It is sometimes confused for a snake; however eyelids (a diagnostic character) are visible. Although sometimes found on the surface at dawn and dusk, this lizard spends most

of its time underground in loose, sandy soil or under leaf litter, where it forages for insects and spiders. The preferred habitat for this species is moist, sparsely vegetated areas of scrub, washes and stream terraces with loose soil and leaf litter.

Silvery legless lizard is a state Species of Special Concern and a BLM Sensitive species. Native habitats at the base of San Gabriel Mountains provide potentially suitable habitat within the known range of this species. Although this species is not expected to occur in areas of Phase 2 improvements due to lack of suitable habitat, CNDDB have recorded this species within a 3-mile radius of the project area to the south and west. Potential impacts to silvery legless lizard would be reduced to a level less than significant with implementation of recommended mitigation measures described in **Section 7.3,** below.

Mohave Ground Squirrel

Endemic to the Mojave Desert, the Mohave ground squirrel (*Xerospermophilus mohavensis*) prefers sandy-to-gravelly soils in open desert scrub, alkali scrub, and Joshua tree woodland. The species finds cover and nests in burrows at the base of shrubs, and eats a wide variety of green vegetation, seeds, and fruits.

Mohave ground squirrel is a state Threatened species and BLM Sensitive species. This species is diurnal, and is active above ground in spring and early summer. Emergence dates vary from March to June, depending on elevation, and aestivation begins in July or August. This species has potential to occur in native, undisturbed habitats in the project vicinity, and CNDDB occurrences have recorded this species within a 3-mile radius to the north and south of the project area. Potential impacts to Mohave ground squirrel would be reduced to a level less than significant with implementation of recommended mitigation measures described in **Section 7.3,** below.

San Joaquin Pocket Mouse

San Joaquin pocket mouse (*Perognathus inornatus*) occurs in open grasslands or scrub areas of fine-textured soils between 1,100 and 2,000 feet in the Central and Salinas valleys. This species feeds mostly on seeds, but also eats green vegetation and insects. San Joaquin pocket mouse is a BLM Sensitive species. This species may occur in native shrubland or agricultural fields in the project vicinity. CNDDB occurrences have been recorded within a 3-mile radius to the south of the project area. Potential impacts to San Joaquin pocket mouse would be reduced to a level less than significant with implementation of recommended mitigation measures described in **Section 7.3,** below.

6.2 Rare and Special-Status Plant Species

Of the five special-status plant species determined to have potential to occur in the project area, none were observed during the biological resources reconnaissance survey. However, focused rare and special-status plant surveys were not conducted for the project area and thus special-status plants, including sagebrush loeflingia, could potentially occur in the project area. Pre-

construction surveys for rare and special-status plants, detailed below in **Section 7.2** would reduce potential impacts to a level less than significant.

6.3 Sensitive Natural Communities

Some areas where pipelines are to be constructed are directly adjacent to Joshua tree woodland and Joshua trees occur within the construction zone in some cases. Joshua trees are protected under the City of Palmdale's Joshua Tree and Native Desert Vegetation Preservation Ordinance (Chapter 14.04 of Title 14 of the Palmdale Municipal Code). If Joshua trees are to be disturbed or removed as a consequence of construction activities, the operating agencies must fulfill one of the requirements outlined in **Section 7.4,** below**,** to reduce potential impacts to Joshua trees to a level less than significant.

6.4 Jurisdictional Resources

Proposed pipelines are to be placed along approximately 0.50 miles of Amargosa Creek between West Avenue O4 and the Sierra Highway. This area of the creek is surrounded by highly disturbed, developed land, with a pedestrian bike path running along the east bank adjacent to a golf course and a commercial development bordered by ornamental landscaping along the west bank. No portions of the creek where pipelines are proposed to be placed support any riparian or wetland vegetation.

A jurisdictional delineation study conducted in 2008 determined that the creek is not subject to the jurisdiction of the Corps under Section 404 of the Federal Clean Water Act due to its isolation from navigable waterways (ESA, 2008). Additionally, the Corps has determined that surface water features within the Antelope Valley are not considered waters of the US due to their isolation from navigable waters. Therefore, projects affecting surface waters and wetlands are not subject to Section 404 permitting.

Amargosa Creek is, however, subject to regulation by the CDFG under Section 1602 of the California Fish and Game Code. A stream is defined under these regulations 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. This definition includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation. CDFG jurisdiction typically extends to the edge of the riparian vegetation canopy. Although areas of the creek where improvements are to be made do not support riparian or wetland vegetation, a Streambed Alteration Agreement (SAA) with the CDFG will need to be established. Details of the SAA are discussed in more detail in **Section 7.5**, below.

6.5 Connectivity and Migration Corridors

Impacts on wildlife movement are expected to be minimal based on the general area of impacts and the type of impacts that would occur. New structures constructed for Phase 2 of the Project are unlikely to affect regional movement because their locations would not be within canyon bottoms or drainages where such movement normally occurs. In addition, the size of the above ground structures are relatively small and wildlife would be expected to easily travel around

them. Pipeline construction would be temporary and would occur in short segments at a time. It is therefore not expected to result in substantial adverse effects on wildlife movement. Impacts on wildlife movement are, therefore, considered less than significant and no mitigation would be required.

7.0 Recommended Mitigation Measures

Implementation of Phase 2 of the Project could potentially result in adverse impacts to local and regional biological resources. Due to the highly disturbed/developed nature of the project area, as well as the nature of the improvements being made, however, potential impacts to special-status plant and wildlife species are anticipated to be minimal. Phase 2 of the project has the potential to cause direct and indirect impacts to jurisdictional features (e.g. Amargosa Creek) and sensitive natural communities (e.g. Joshua trees) within the project area. However, the implementation of appropriate avoidance measures, as well as agreements with state and local agencies would help to minimize these potential impacts as well. The implementation of the recommended mitigation measures provided below would ensure that any potential impacts to biological resources would be reduced to a level less than significant.

7.1 Special-Status and Nesting Birds

- A pre-construction survey should be conducted within areas containing suitable habitat for burrowing owls 14 to 30 days prior to clearing of the site by a qualified biologist in accordance with the most recent CDFG protocol, currently the *Staff Report on Burrowing Owl Mitigation* (CDFG 1995). Surveys should cover areas disturbed by construction including a 200-foot buffer. The survey would identify adult and juvenile burrowing owls and signs of burrowing owl occupation. If potential presence if determined through a Phase II burrow survey, a Phase III survey should be conducted and should include two early morning surveys and two evening surveys to ensure that all individuals or owl pairs have been located.

- If occupied burrowing owl habitat is detected on or adjacent (i.e., within 200 feet) to the proposed project site, measures to avoid, minimize, or mitigate impacts should be incorporated into the project and should include the following:

    - Construction exclusion areas should be established around the occupied burrows in which no disturbance should be allowed to occur while the burrows are occupied. During the non-breeding season (September 1 through January 31), the exclusion zone should extend 50 feet around the occupied burrows. During the breeding season (February 1 through August 31), exclusion areas should extend 160 feet around occupied burrows.
    - Passive relocation of on-site owls may be implemented during the non-breeding season after coordinating with CDFG. Passive relocation should be accomplished by installing one-way doors on the entrances of burrows located within 50 feet of the project site. The one-way doors should be left in place for 48 hours to ensure that the owls have left the burrow.

- For each burrow affected by project construction, two alternate unoccupied natural or artificial burrows should be provided outside of the 50-foot buffer zone (CDFG 1995). The alternate burrows should be monitored daily for one week to confirm that owls have moved and acclimated.

- If construction and vegetation removal is proposed during the typical bird nesting period (February 1 through August 31), preconstruction surveys for nesting/roosting bird species should be conducted by a qualified biologist within 30 days prior to construction, with at least one survey conducted no more than five days prior to the onset of construction (or vegetation removal). The surveys should include habitats within 500 feet of the construction limits. This survey should include species protected under the MBTA including the loggerhead shrike, Swainson's hawk, and Cooper's hawk. The survey should cover all reasonably potential nesting locations for the relevant species on or closely adjacent to the project site.

- Active nest sites located during the pre-construction surveys should be avoided and a non-disturbance buffer zone established dependent on the species as determined by the monitoring biologist. Buffer distances are typically 300 feet for common birds and passerine species and 500 feet for raptors and special-status species. The buffer zone should be delineated in the field with flagging, stakes or construction fencing. Nest sites should be avoided until the adults and young are no longer reliant on the nest site for survival as determined by a qualified biologist. CDFG will be notified of the identification of active nests and will be consulted regarding resumption of construction activities.

7.2 Rare and Special-Status Plant Species

- The implementing agencies should have a qualified biologist conduct a pre-construction spring floristic inventory and rare plant survey to determine and map the location and extent of special-status plant species populations within the construction right-of-way. The project should minimize impacts on special-status plant species by reducing the construction right-of-way through areas with documented occurrences of special-status plant species if any are found.

- If special-status plant populations are identified within the construction right-of-way, the project applicant should stake, flag, fence, or otherwise clearly delineate the construction right-of-way that restricts the limits of construction to the minimum necessary to implement the project that also would minimize impacts on special-status plants.
- If special-status plant populations are identified within the construction right-of-way, the project applicant should salvage and stockpile the top 12 inches of soil in the construction zone, including plant material and duff for use in the restoration efforts.
- If special-status plant populations are identified within the construction right-of-way, the project applicant should prepare and implement a special-status species salvage and replanting plan, for unavoidable temporary impacts on special-status plants. The salvage and replanting plan should include measures to salvage, replant, and monitor the

construction zone until native vegetation is re-established under the direction of CDFG and USFWS.

7.3 Special-Status Wildlife Species

- Prior to project implementation, a biological reconnaissance survey should be conducted by a qualified biologist to determine if potential habitat is present for the following species: California red-legged frog, Mohave ground squirrel, coast horned lizard, San Joaquin pocket mouse, and silvery legless lizard. If potential habitat is present for these species, then the implementing agencies should arrange for a qualified biologist with the necessary permits to conduct focused surveys for the specific species warranted. If focused surveys determine that a special-status species is present, then the implementing agencies should take the steps necessary to avoid any potential direct or indirect impacts (i.e. construction noise and dust) that may be incurred by the special-status species present. If impacts are unavoidable, then consultation with the CDFG and/or USFWS shall occur in order to obtain the required take permit prior to any project activities that may result in impacts on California red-legged frog, Mohave ground squirrel, coast horned lizard, San Joaquin pocket mouse, or silvery legless lizard.

- Prior to project implementation, a habitat assessment will be conducted by a qualified biologist to determine the potential for the Mohave ground squirrel to occur. If the habitat assessment determines that potential habitat for the Mojave ground squirrel is present in the impact zone or within 300 feet of the construction zone, then the implementing agencies have two options:

  1) assume the Mohave ground squirrel is present and either take the steps necessary to avoid any potential direct or indirect impacts (i.e., construction noise and dust) that may be incurred by the Mohave ground squirrel or;

  2) arrange for a qualified biologist with the necessary permits to implement a trapping program to determine the presence or absence of the Mohave ground squirrel.

- All steep-walled trenches or excavation pits used during construction should be covered at all times except when being actively utilized. Covers should be strong enough to prevent wildlife from falling through and should be designed to exclude small animals, including coast horned lizard. If the trenches or excavations cannot be covered, exclusion fencing constructed of materials that would exclude both large and small wildlife species should be installed around the trench or excavation to prevent entrapment of wildlife. Open trenches, or other excavations that could entrap wildlife should be inspected by a biological monitor a minimum of three times per day and immediately before backfilling. If present, construction should not occur until the animal has left the trench or been removed by a qualified biological monitor as feasible. Employees and contractors should look under vehicles and equipment for the presence of wildlife before movement. If

wildlife is observed, no vehicles or equipment should be moved until the animal has left voluntarily or is removed by the biological monitor. No listed species should be handled.

- A Worker Environmental Awareness Program (WEAP) should be implemented to educate construction crews and contractors on sensitive biological resources that could occur on the project site. As part of the WEAP, special-status species with potential to occur on the project site would be reviewed along with relevant protection plans and avoidance measures to be implemented. The WEAP would be required for all associated personnel prior to the commencement of construction activities and a record of participation should be maintained.

7.4 Sensitive Natural Communities

- Efforts should be made to prevent permanent native vegetation loss to the greatest extent feasible. If removal of Joshua trees is deemed unavoidable, then the operating agencies must take one of the following actions to fulfill obligations under provisions of the City of Palmdale's Joshua Tree and Native Desert Vegetation Preservation Ordinance (Chapter 14.04 of Title 14 of the Palmdale Municipal Code):

    1. Obtain a desert vegetation removal permit from the City of Palmdale's landscape architect or his or her designee. The City currently maintains a minimum preservation standard of two (2) Joshua trees per gross acre, averaged for the gross site area covered by the development application. This standard can also be modified, as determined by the City, to reflect an appropriate preservation ratio as site conditions warrant. The City currently requires proponents for projects likely to impact Joshua trees to acquire off-site habitats of equal or superior quality at no less than a 2:1 ratio within remaining habitat in the Antelope Valley. The terms, conditions, implementation, and location of these mitigation measures should be determined through consultation with relevant resource agencies, including the CDFG.

    2. Secure an exemption from the provisions of Chapter 14.04 of the Code, under Subsection (F) of 14.04.090, which identifies an exemption as "Removal of street trees from within the public right-of-way, which in the opinion of the director of public works or his or her designee, will or may cause damage to public improvements."

7.5 Jurisdictional Resources

- Construction crews should avoid permanently altering streambeds and banks of Amargosa Creek and all features of the creek should be restored to previous conditions once construction is complete. The operating agencies should secure a SAA from the CDFG and impacts to the streambed of Amargosa Creek will be mitigated based on measures adopted in the SAA.

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Appendix C
Cultural Resources Assessment

ESA

Los Angeles County Waterworks District No. 40 Regional Recycled Water Project Phase 2

Cultural Resources Assessment

Prepared for
Los Angeles County Dept. of Public Works, Waterworks District No. 40

January 2012

ESA

Los Angeles County Waterworks District No. 40 Regional Recycled Water Project Phase 2

Cultural Resources Assessment

Prepared for
Los Angeles County Dept. of Public Works, Waterworks District No. 40
900 S. Fremont Ave
Alhambra, CA 91803

January 2012

Report Author: Madeleine Bray, M.A, RPA

Project site location:
Lancaster West, Lancaster East, Palmdale and Ritter Ridge USGS 7.5' Quads
T6N, R12W, Sections 1, 2, 10, 11, 13, 14, 15
T 6N, R11W, Sections 18, 19, 20.

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EXECUTIVE SUMMARY

This Phase I cultural resources survey report has been prepared in support of the Los Angeles County Waterworks District No. 40, Antelope Valley (LACWWD40) North Los Angeles/Kern County Regional Recycled Water Project, Phase 2 (Project). LACWWD40 proposes to implement Phase 2 of the Regional Recycled Water Project which involves the construction of recycled water conveyance pipelines, one pump station, and one steel storage tank for recycled water use.

In 2008, a cultural and paleontological resources assessment was prepared for the North Los Angeles/Kern County Regional Recycled Water Master Plan (Regional Recycled Water Project) (Loftus and Turner, 2008), which encompassed 70 linear miles of proposed pipeline and eight potential pump station and reservoir localities. In 2010, the proposed pipeline route for Phase 2 of the Regional Recycled Water Project was altered to include approximately 8.75 miles of new pipeline alignment, of which 5.25 miles had not been evaluated in the original cultural resources assessment. ESA was contracted by LACWWD40 to perform an updated archival records review for the 8.75 miles of new pipeline and to conduct a cultural resources pedestrian survey of the 5.25 miles of new recharge and recovery pipeline not evaluated in the original cultural resources assessment.

LACWWD40 has been awarded an Appropriations Grant from the U.S. Environmental Protection Agency (USEPA) for Phase 2 of the Regional Recycled Water Project; therefore, in addition to CEQA compliance, Phase 2 of the Project must also comply with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA) before construction can be initiated. The USEPA serves as the lead federal agency for this Project; LACWWD40 is the lead state agency.

The Area of Potential Effects (APE) has been defined as all areas where potential Project-related ground disturbance may occur. The APE includes the construction footprint for activity related to all Project components, including the construction of the recharge basin site, proposed pipeline routes, well sites, and staging areas. The vertical APE is defined by the depth of excavation required during trenching for the installation of the pipeline. While this may vary across the APE, it is estimated that in general the pipeline trench will be 5 to 7 feet deep and 4 to 5 feet wide; jack and bore pits will be up to 30 feet wide and between 5 to 20 feet deep.

A records search for the APE and ½-mile radius was conducted on July 1, 2010 at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton. The records search indicated that a total of 30 cultural resources have been previously recorded within ½ mile of the APE; two of these resources are located within the Project APE. Resource P-19-

180638 is a segment of the Southern Pacific Railroad and resource P-19-003705 is a 20th century debris scatter.

A Sacred Lands File (SLF) search for the Project was requested from the California Native American Heritage Commission (NAHC) on July 1, 2010. The SLF search failed to indicate the presence of Native American cultural resources within the APE. Follow-up correspondence was conducted with all individuals and groups indicated by the NAHC as having affiliation with the survey areas. To date, no responses have been received.

The previous study prepared for the North Los Angeles/Kern County Regional Recycled Water Master Plan (Loftus and Turner, 2008) included an archaeological survey of 3.5 miles of the current APE, including the portion of the APE along Sierra Highway between Avenue M and Avenue 0-8. Because this area had been so recently surveyed, it was not surveyed as part of the current effort. Field survey of the remaining 5.25 linear mile APE was conducted on July 23, 2010 by ESA archaeologists Madeleine Bray, M.A., RPA, and Damien Tietjen. Additional site recording was performed on January 27, 2011. Areas that were not built-up or otherwise disturbed were subject to intensive pedestrian survey. Because the width of the APE had not yet been defined at the time of archaeological survey, an arbitrary survey area was delineated that consisted of an approximately 150-foot wide corridor centered on the pipeline centerline (pipeline survey area). The proposed pump station location at the Palmdale Water Reclamation Plant (PWRP) and proposed water tank location were subject to a reconnaissance level survey.

A total of nine cultural resources were recorded during the survey of the pipeline survey area. However, since the time of the initial archaeological survey, the APE has been narrowed to a width of 20 feet. Because of this, of the nine resources recorded during archaeological survey, only four are located within or immediately adjacent to the current APE. These four resources consist of three archaeological resources dating to the mid-20th century (P-19-003705, WW4, and WW5) and one historic built feature (P-19-180638, a segment of the Southern Pacific Railroad). All resources were recorded on DPR forms and submitted to the SCCIC; however, only those resources located within or immediately adjacent to the current APE are described and evaluated in this report. Resources WW4, WW5, and P-19-003705 are recommended not eligible for listing on the National Register of Historic Places or California Register of Historical Resources. Resource P-19-180638 is being assumed eligible for the purposes of this project, and will be avoided during project construction. No historic properties will be affected as a result of the Project. A contingency mitigation measure is recommended in the event of accidental discovery of cultural resources during construction.

Introduction

This cultural resources survey report has been prepared in support of the Los Angeles County Waterworks District No. 40, Antelope Valley (LACWWD40) North Los Angeles/Kern County Regional Recycled Water Project, Phase 2 (Project). ESA is preparing a joint Environmental Assessment and Initial Study/Mitigated Negative Declaration for the Project.

LACWWD40 proposes to implement Phase 2 of the Regional Recycled Water Project. Phase 2 would provide critical components of the primary backbone system to distribute recycled water in the Antelope Valley. Phase 2 involves the construction of recycled water conveyance pipelines, one pump station, and one steel storage tank for recycled water use.

In 2008, a cultural and paleontological resources assessment was prepared for the North Los Angeles/Kern County Regional Recycled Water Master Plan (Regional Recycled Water Project) (Loftus and Turner, 2008), which encompassed 70 linear miles of proposed pipeline and eight potential pump station and reservoir localities. In 2010, the proposed pipeline route for Phase 2 of the Regional Recycled Water Project was altered to include approximately 8.75 miles of new pipeline alignment, of which 5.25 miles had not been evaluated in the original cultural resources assessment. ESA was contracted by LACWWD40 to perform an updated archival records review for the 8.75 miles of new pipeline and to conduct a cultural resources pedestrian survey of the 5.25 miles of new recharge and recovery pipeline not evaluated in the original cultural resources assessment.

This report documents the results of a Phase I cultural resources survey. LACWWD40 has been awarded an Appropriations Grant from the U.S. Environmental Protection Agency (USEPA) for Phase 2 of the Regional Recycled Water Project; therefore, in addition to CEQA compliance, Phase 2 of the Project must also comply with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA) before construction can be initiated. The USEPA serves as the lead federal agency for this Project; LACWWD40 is the lead state agency.

ESA personnel involved in the preparation of this report are as follows: Monica Strauss, M.A., R.P.A., principal investigator; Madeleine Bray, M.A., R.P.A., report author and surveyor; Damien Tietjen and Lilandra Carrier, surveyors; Brian Marks, Ph.D., preparation of DPR forms; Jason Nielson, GIS specialist; and Linda Uehara, graphic artist. Resumes of key personnel are included in Appendix A.

Project Description

Project Location and Setting

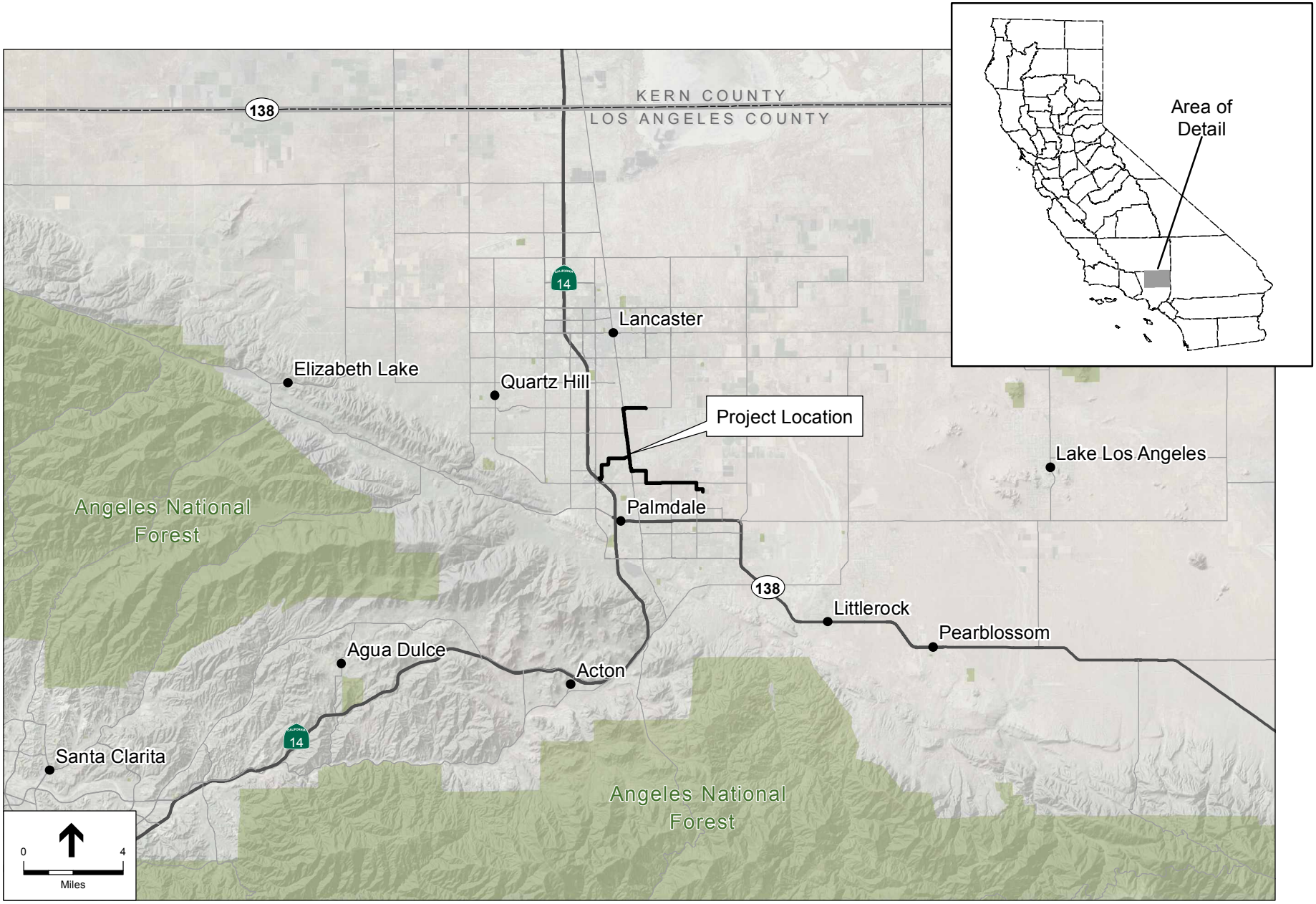
The proposed Project would be located in the Antelope Valley, which encompasses approximately 2,400 square miles in northern Los Angeles County, southern Kern County, and western San Bernardino County (Figure 1). The physical improvements associated with implementation of Phase 2 would be located within the City of Palmdale. The Project is comprised of three components (Figure 2). The first component is a pump station which would be located at the Palmdale Water Reclamation Plant (PWRP), 39300 30th Street East. The second Project component is a new steel storage tank located adjacent to northbound State Route 14 (Antelope Valley Freeway) between 10th Street West and the Amargosa Creek, on a parcel owned by LACWWD40. The third component consists of the Phase 2 the pipelines that connect the system. The pipelines would be constructed primarily within the public right-of-way of City streets and crosses the Amargosa Creek northeast of the storage tank. One pipeline reach also would make two crossings of the Union Pacific Railroad as it runs parallel to Sierra Highway. The PWRP is owned by Los Angeles County Sanitation District No. 20 (LACSD No. 20). LACWWD40 would acquire an easement from LACSD No. 20 for encroachment on their site prior to implementing Phase 2 components at the PWRP.

The Project is located on the Lancaster West, Lancaster East, Palmdale and Ritter Ridge USGS 7.5' topographic quadrangles, T6N, R12W, Sections 1, 2, 10, 11, 13, 14, 15; and T 6N, R11W, Sections 18, 19, 20.

Project Components

Pipelines

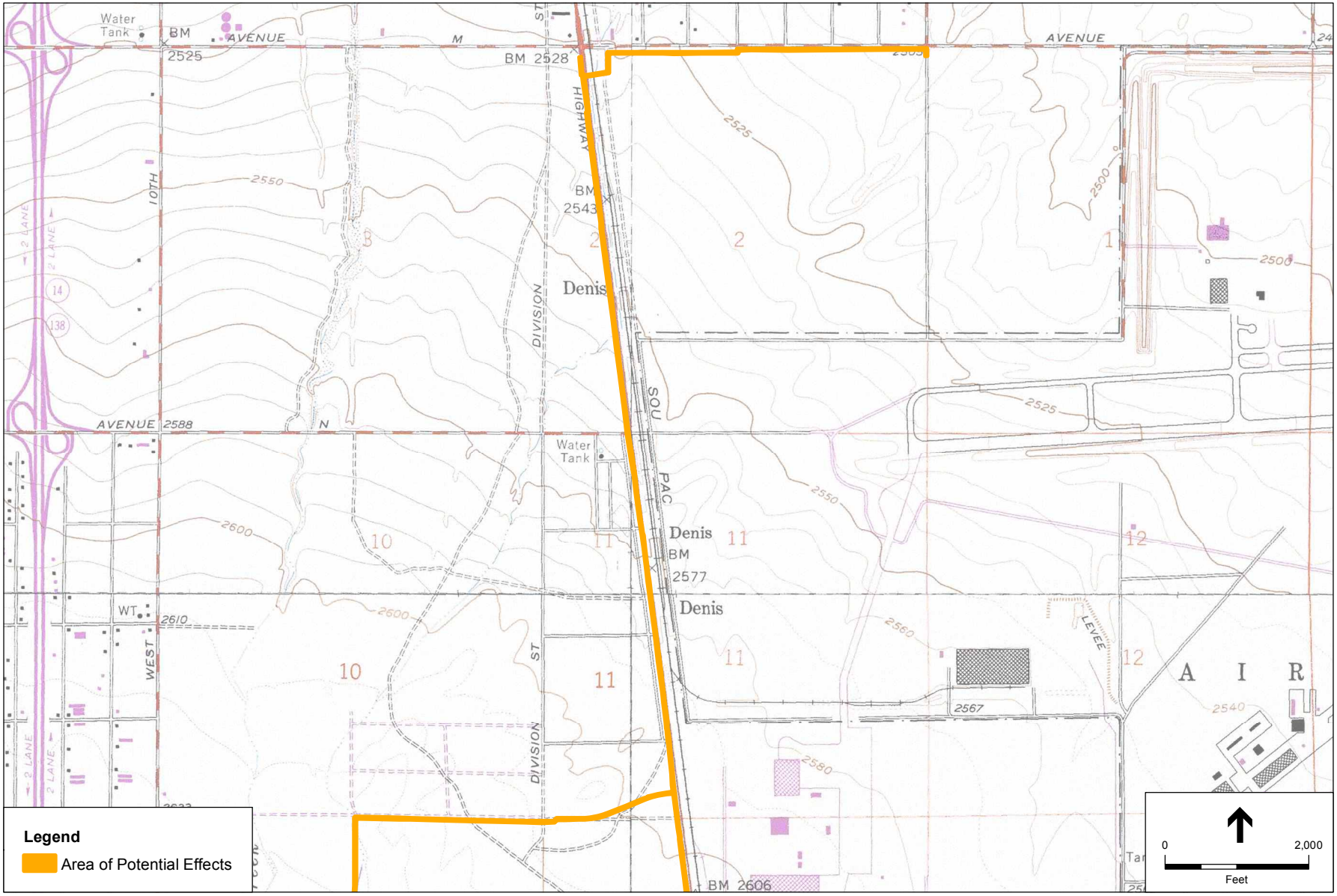
The proposed Phase 2 recycled water pipelines would connect to the PWRP and would provide the backbone for distribution of recycled water throughout the City of Palmdale. Once Phase 2 is constructed, this portion of the distribution system would be operational. The pipelines would eventually connect at the intersection of Avenue M and Sierra Highway to future recycled water pipelines to be built by the City of Lancaster. Phase 2 would include approximately 41,250 linear feet of 24-inch diameter steel pipe and 5,200 linear feet of 16-inch diameter steel pipe. The pipes would be colored purple or wrapped with purple tape, in accordance with the California Health and Safety Code requirements for recycled water pipelines (Division 104, Part 12, Chapter 5, Article 2, Section 116815). All pipelines would be aligned within the public right-of-way of city and county streets, within the City of Palmdale's Amargosa Creek drainage easement, on property owned by LACWWD40 or LACSD, or within easements owned or to be acquired by LACWWD40. Air-relief valves and blow-off valves would be installed at peak elevations and low elevations, respectively and as needed between valves to accommodate pipeline dewatering or system charging. The valves would typically be installed within sidewalk right-of-ways.



SOURCE: ESRI, 2010. ESA, 2011.

Antelope Valley Regional Recycled Water . 209362

Figure 1
Regional Map



SOURCE: USGS, 2011.

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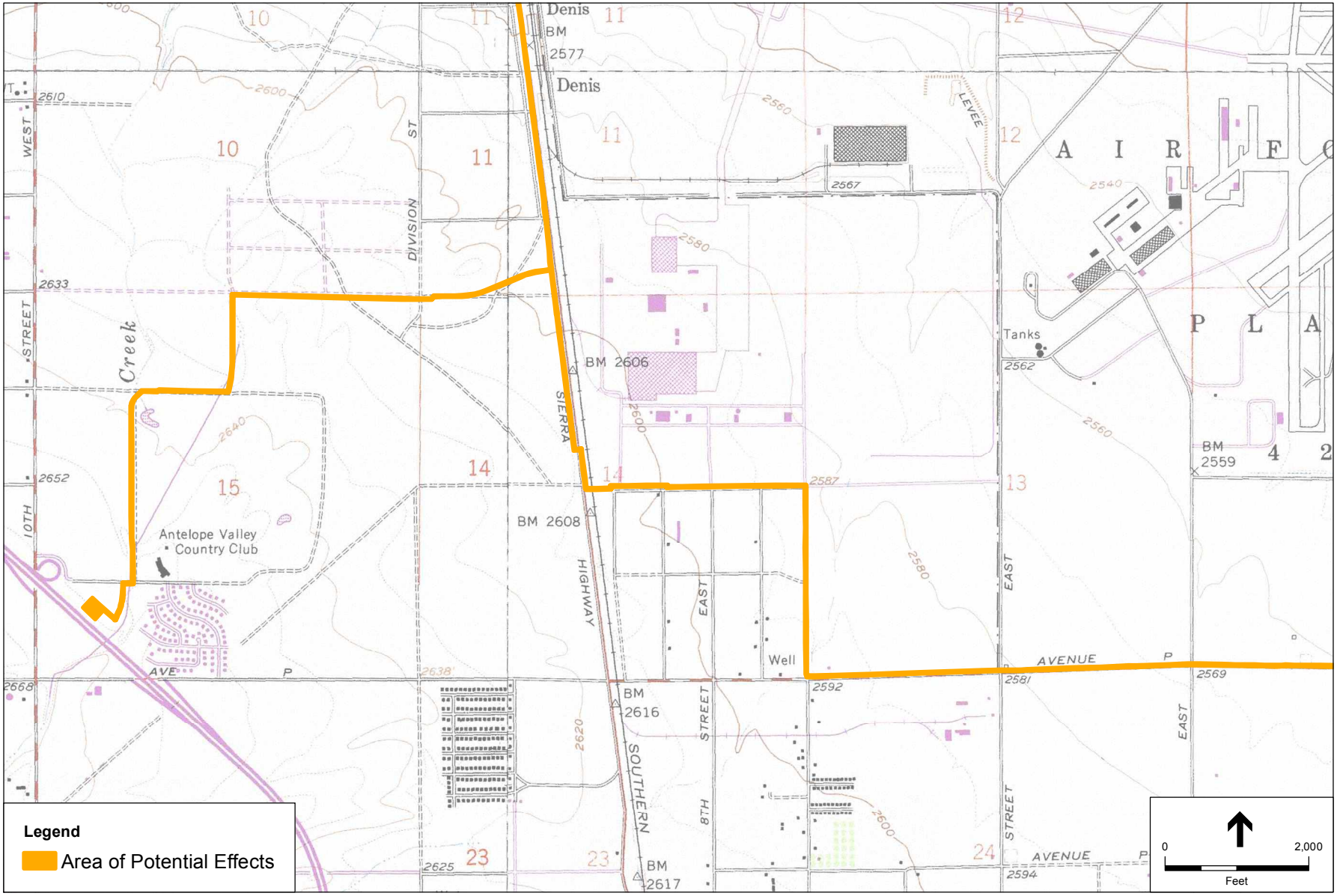
Figure 2-A

Project Location

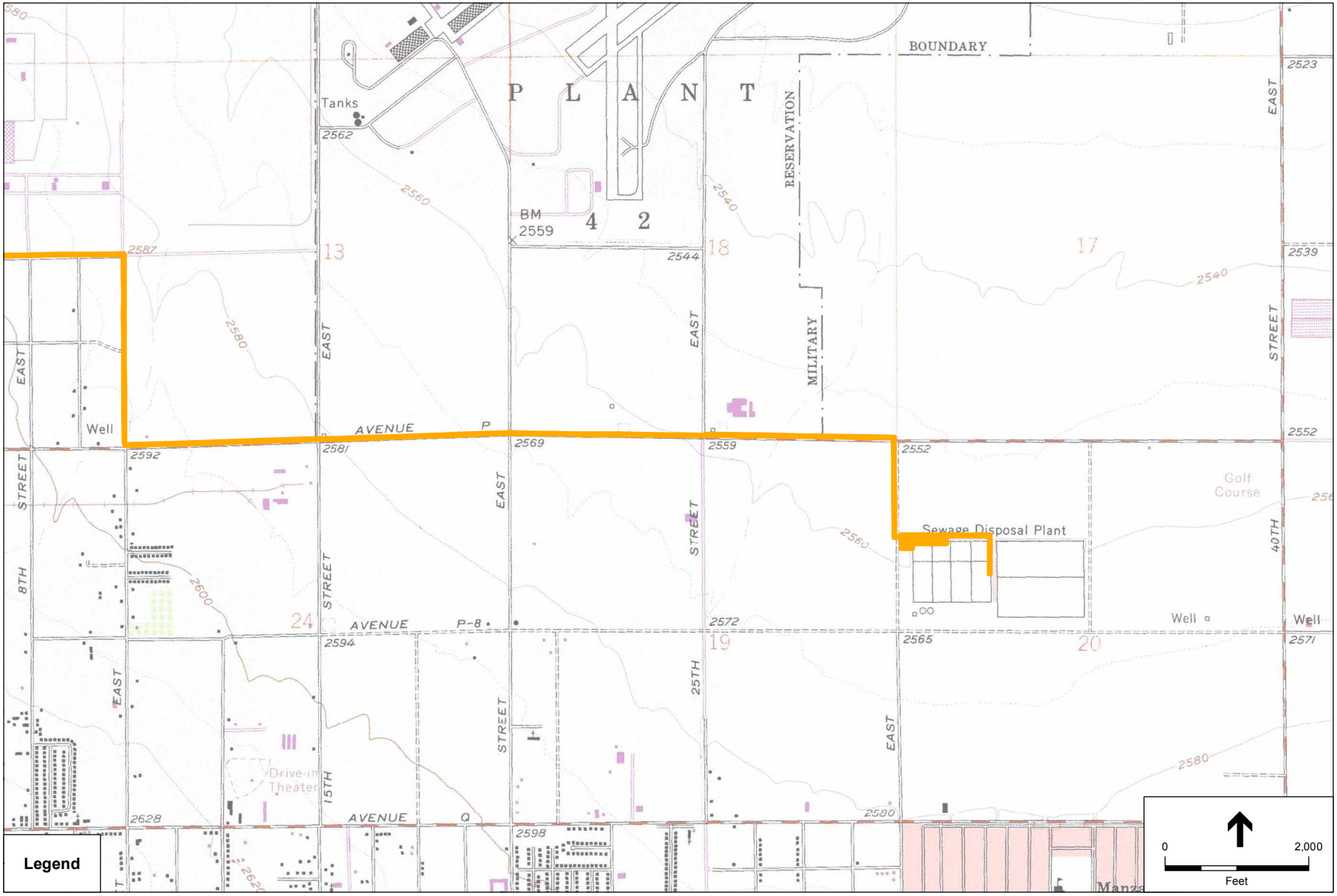


SOURCE: USGS, 2011.

Antelope Valley Regional Recycled Water. 209362

Figure 2-B

Project Location



SOURCE: USGS, 2011.

Antelope Valley Regional Recycled Water. 209362

Figure 2-C

Project Location

The Amargosa Reach of the pipeline would include a segment to be built along the unpaved utility road that runs adjacent to Amargosa Creek starting at Avenue O, which is within the City's drainage easement. The pipeline would continue south and cross the Amargosa Creek within the drainage easement where it would end at the new steel storage tank. The pipe would be contained within a concrete encasement for protection at creek crossings.

Storage Tanks

Phase 2 includes the construction of a storage tank. The new storage tank would be located on a parcel owned by LACWWD40, adjacent to the Antelope Valley Freeway. The water storage tank would have a 3.0 million gallon (MG) capacity. Outside security lighting and security fencing would be installed around the storage tank.

Pump Station

Phase 2 includes one new pump station located at the PWRP. The proposed pump station would pump recycled water from the PWRP through the backbone system pipelines to the storage tank. The pump station would have a capacity of 9,200 gallons per minute (gpm) (850 HP) and a construction footprint of approximately 1,200 square feet. A portable generator and outside security lighting would be installed at the pump station. The pump station must have stand-by capabilities in the event that a pump must be taken off-line. All new facilities to be installed at the PWRP would require new security fencing to provide separate access.

Project Construction Schedule and Construction Details

Construction of Phase 2 would begin in November 2012 and end in October 2014, for a total of 24 months. Pipeline installation would be ongoing for the duration of construction. The construction of the pump station would take approximately nine months and the construction of the storage tank would take approximately six months.

Pipelines

Construction of the proposed recycled water pipelines would involve trenching using a conventional cut and cover technique, and jacking and boring where necessary. No dewatering would be required. The pipelines would be installed within existing roadway right-of-way, within the City of Palmdale's Amargosa Creek drainage easement, on property owned by LACWWD40 or LACSD, or within easements owned or to be acquired by LACWWD40. The trenching technique would include saw cutting of the pavement where applicable, trench excavation, pipe installation, backfill operations, and re-surfacing to the original condition. The trench would be 5 to 7 feet deep and 4 to 5 feet wide. The pipeline would be installed a minimum of three feet below ground surface (bgs). The construction corridor would be approximately 20 feet wide to allow for staging areas and vehicle access. Construction staging areas would be identified by the contractor for pipe lay-down, soil stockpiling, and equipment storage. On average, 50 to 100 feet of pipeline may be installed per day.

Trenches would be temporarily closed at the end of each work day, by covering with steel trench plates and installing barricades to restrict access to staging areas. The construction equipment needed for pipeline installation includes: backhoe, excavator, bracing, boom lift truck, steam

roller, plate compactor. Approximately 6 to 7 workers per day would be required for pipeline installation. Approximately 930,000 – 974,000 cubic feet of soil excavated during pipeline construction would require offsite disposal. Approximately 2,200 cubic feet of concrete would be required for the encasement to cross the Amargosa Creek.

Jack and bore tunneling is used when trenching is not feasible because the ground surface cannot be disturbed, such as under railroad lines. For Phase 2 construction, jack and bore methods would be used to install the pipeline across the Union Pacific Railroad tracks near Avenue O-8 and just south of Avenue M. This tunneling method employs a horizontal boring machine or an auger that is advanced in a tunnel bore to remove material ahead of the pipe. Temporary bore pits and receiving pits are excavated on either side of the segment. Powerful hydraulic jacks are used to push a steel casing pipe from a launch (bore) pit to a receiving pit. As the tunneling machine is driven forward, a jacking pipe is added into the pipe string. After installment of the casing pipe, a smaller carrier pipe is inserted into the casing pipe. The carrier pipe will convey the recycled water. A jacking pit typically measures as little as 10 feet by five feet up to approximately 30 feet by 10 feet. The temporary pits typically would be excavated to a depth of 5 to 20 feet, as needed. Recycled water pipeline installation by this method would require approximately one to two weeks per crossing; excavated soils would be retained for backfill.

Pump Station

The pump station would be housed in a single-story building with a pump room and an electric control room. The pump station exterior would be built in accordance with standard construction methods for roofed masonry buildings, including steel reinforced (tied) concrete foundations and masonry walls. Construction of the pump station would involve installation of piping and electrical equipment, excavation and structural foundation installation, pump house construction, pump and motor installation, and final site restoration. The pump station would be equipped with portable emergency generator connections and manual transfer switches. The pump station would have flow meters, suction and discharge pressure gauges, and remote telemetry units. Power to the pump station would be provided through underground service to minimize possibility of damage during fires.

The construction equipment needed for pump station installation includes: auger truck, backhoe, boom lift truck, excavator, plate compactor, and scaffolding. Approximately 3 to 6 workers would be required at a time during various phases of pump station construction, with the exception of the masonry phase, which would require up to 12 workers. A footprint of approximately 1,200 square feet would be excavated to a depth of five feet for the pump station. Approximately 10,000 cubic feet of soil would be excavated and would require offsite disposal for the pump station. Approximately 4,000 cubic feet of concrete would be required for the pump station. No dewatering would be required.

Storage Tank

Construction of the new storage tank would include site preparation and clearing, excavation, grading, tank erection and painting, and site restoration. The storage tank would be constructed of prefabricated 8-foot-high steel rings, stacked and welded to the desired height.

The construction equipment needed for tank installation includes: cranes, flatbed trucks for panels, heavy duty welding machines, excavators, scrapers, rollers, pre-stressing equipment and backhoes for foundation, and painting equipment. There would be nominal dewatering. Approximately 106,500 cubic feet of soil would be removed during excavation for the storage tank and approximately 55,000 cubic feet will require offsite disposal.

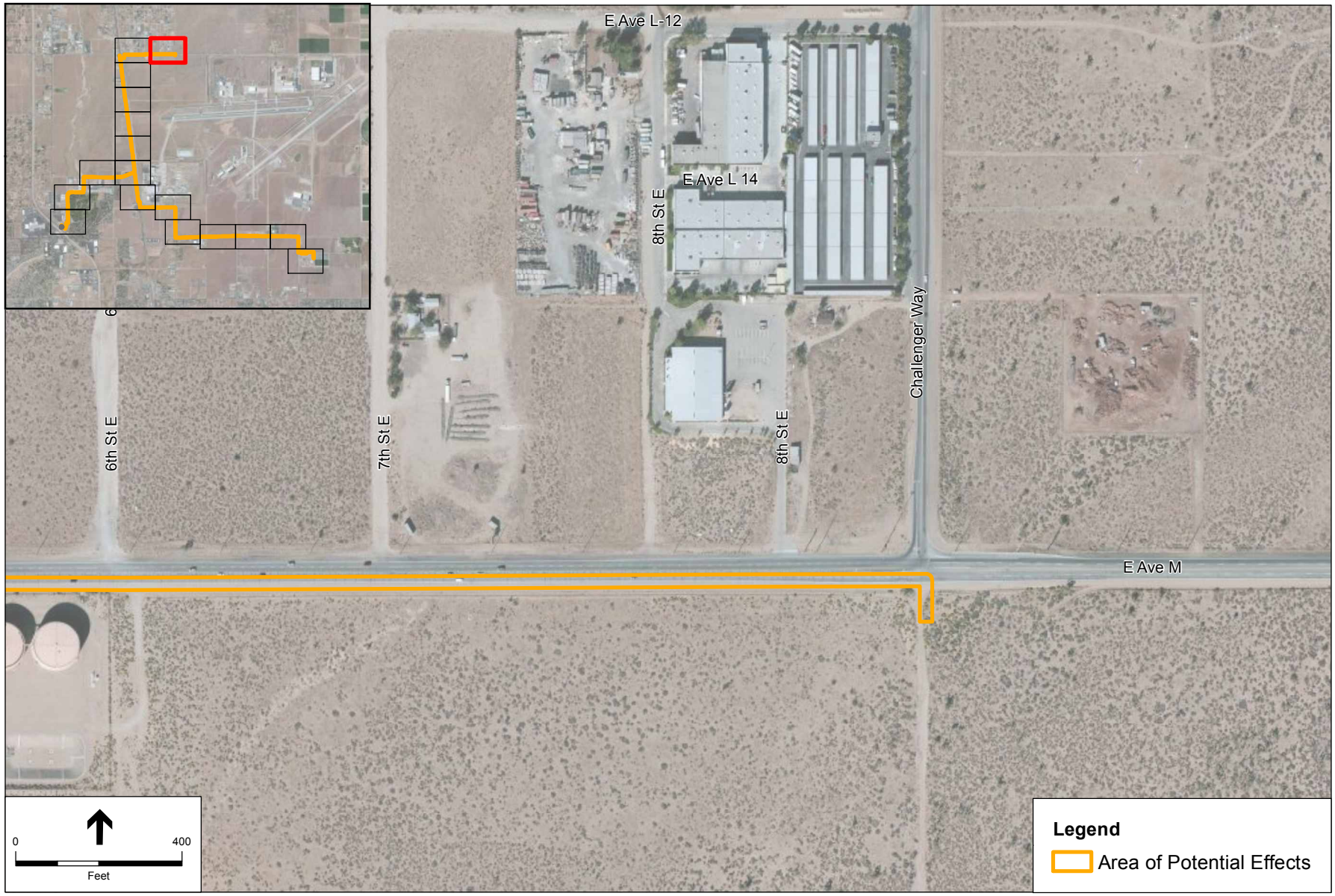
Construction Staging Plan

As mentioned above, all proposed facilities, except the pipelines, would be constructed at sites belonging to either LACWWD40 or LACSD No. 20. LACWWD40 would acquire an easement from LACSD No. 20 for encroachment on their site prior to implementing Phase 2 components at the PWRP. During construction, all vehicles would park within each of the respective sites. A temporary trailer would be placed onsite as an office for necessary staffing.

Pipeline construction would occur mostly within public right-of-way of city and county streets. A temporary office would be placed at one of the aforementioned sites. Alternatively, the construction contractor may place a temporary office on the properties of nearby establishments. Site selection would depend on practicality and availability. Construction parking would vary with progress along the linear pipeline corridor. During construction, the contractor would acquire easements from surrounding establishments for temporary parking. Traffic control devices would be incorporated into the design plans to ensure smooth traffic flow during construction. A detailed staging plan would be prepared once the Project design begins.

Area of Potential Effects

The Area of Potential Effects (APE) has been defined as all areas where potential Project-related ground disturbance may occur. The APE includes the construction footprint for activity related to all Project components, including the construction of the water storage tanks, proposed pipelines, and staging areas (Figure 3). The horizontal APE is defined by the width of the construction corridor related to Project activities. For the proposed pipeline, the construction corridor will be 20 feet wide and 8.75 miles long. The vertical APE is defined by the depth of excavation required during trenching for the installation of the pipeline and excavation for construction of the new tanks. While this may vary across the APE, it is estimated that in general the pipeline trench will be 5 to 7 feet deep and 4 to 5 feet wide; jack and bore pits will be up to 30 feet wide and between 5 to 20 feet deep.



SOURCE: Bing Maps 2010. ESA, 2011.

Antelope Valley Regional Recycled Water. 209362

Figure 3-A

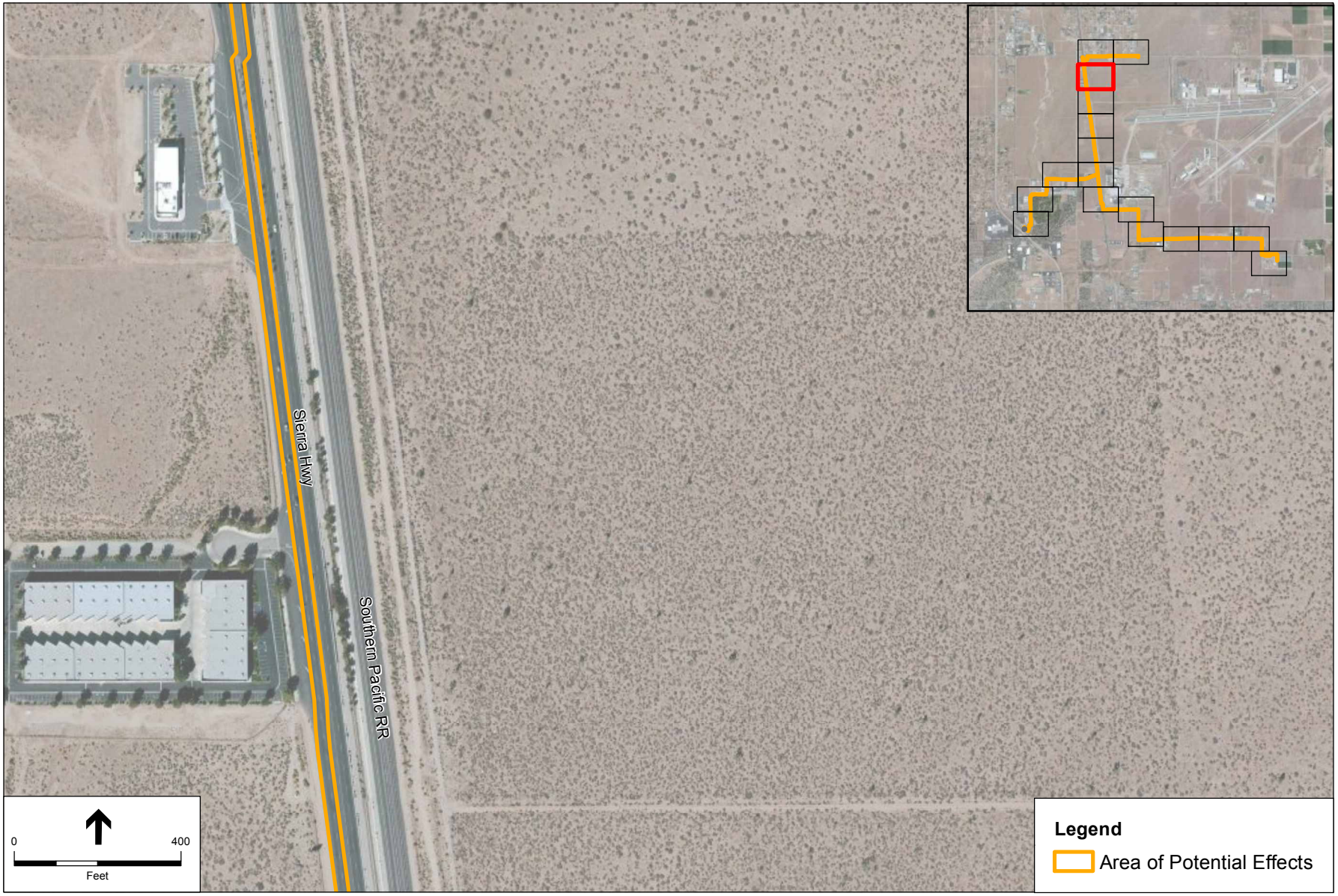
Area of Potential Effects

SOURCE: Bing Maps 2010. ESA, 2011.

Antelope Valley Regional Recycled Water. 209362

Figure 3-B

Area of Potential Effects



SOURCE: Bing Maps 2010. ESA, 2011.

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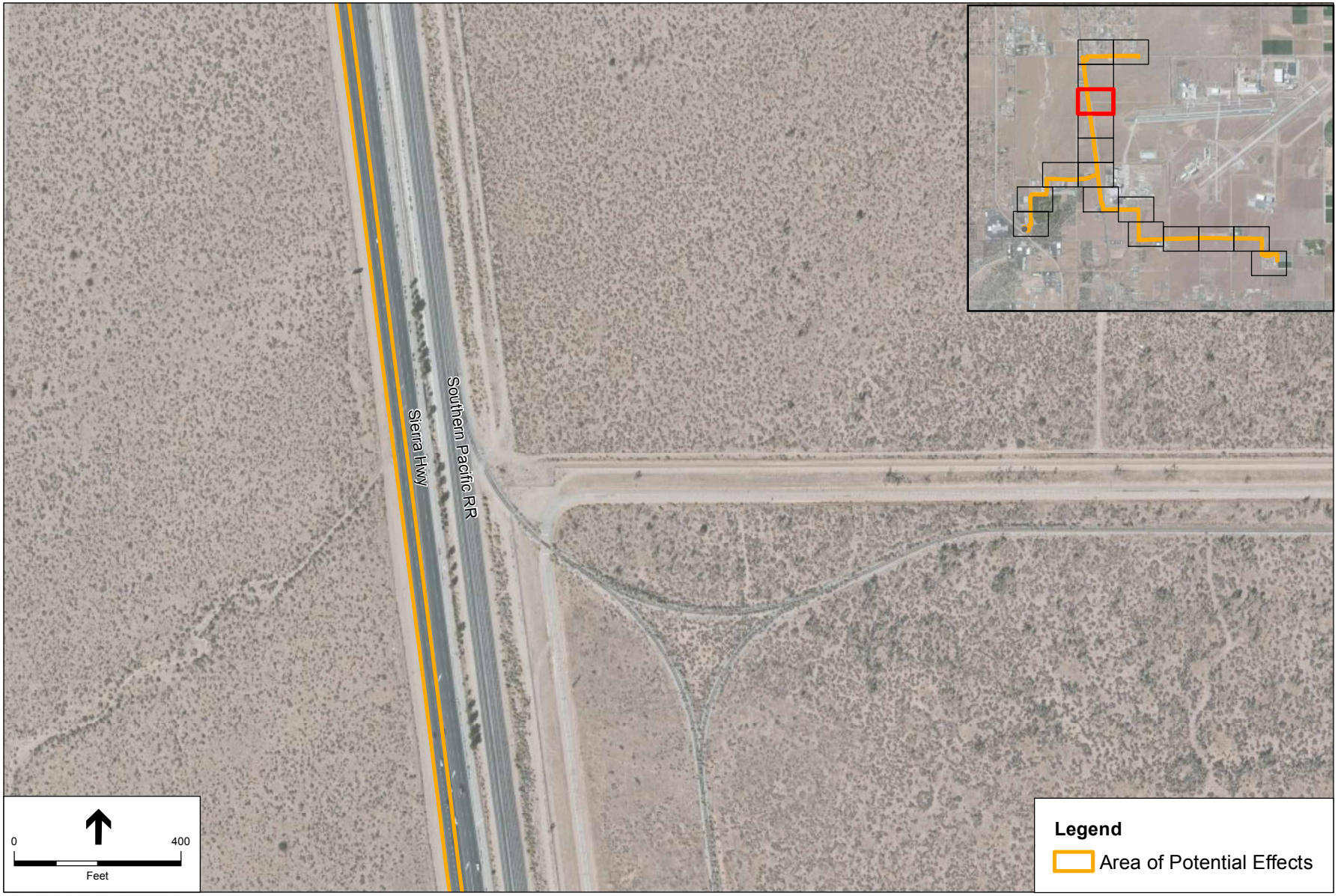
Figure 3-C

Area of Potential Effects

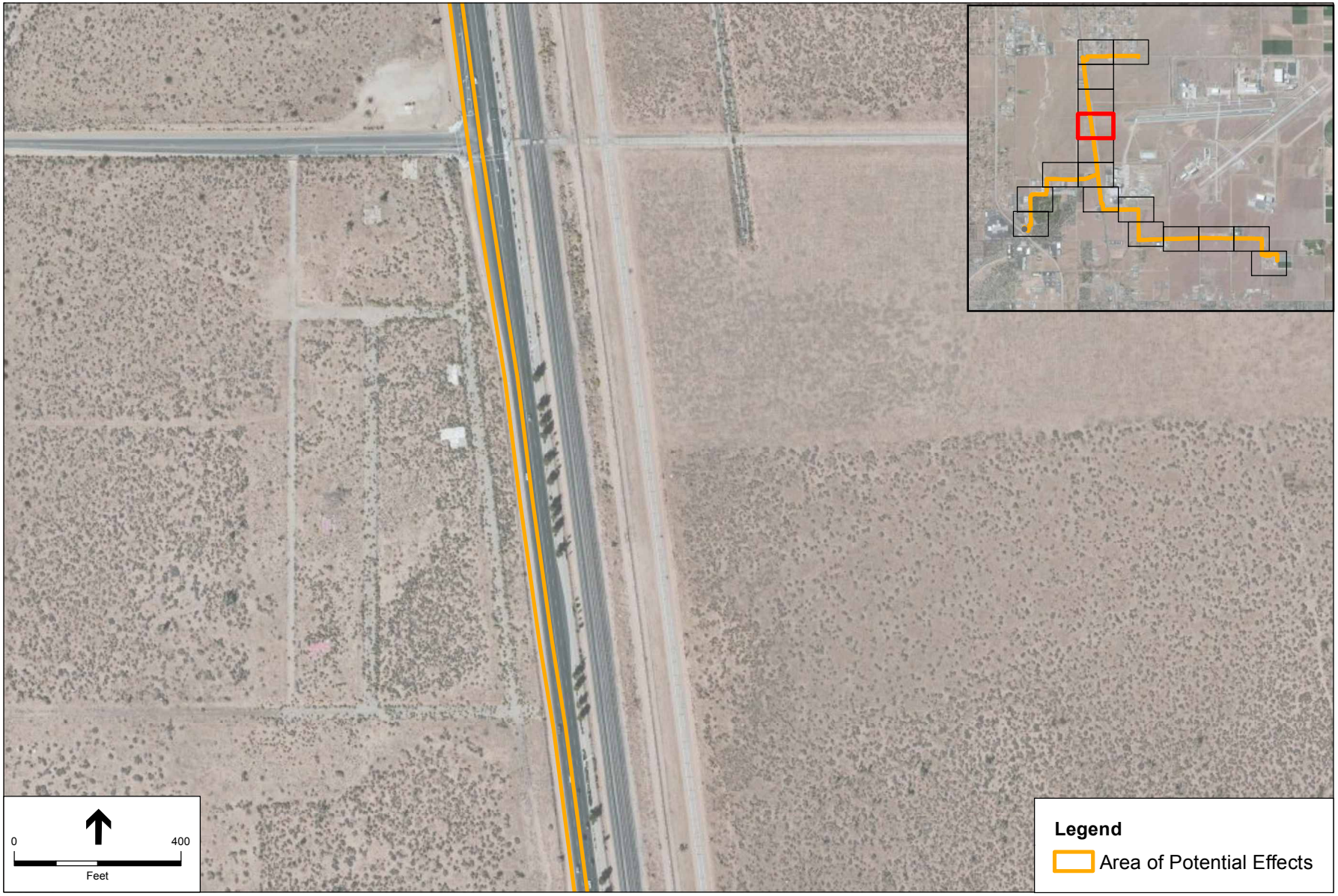


SOURCE: Bing Maps 2010. ESA, 2011.

Antelope Valley Regional Recycled Water. 209362

Figure 3-D

Area of Potential Effects

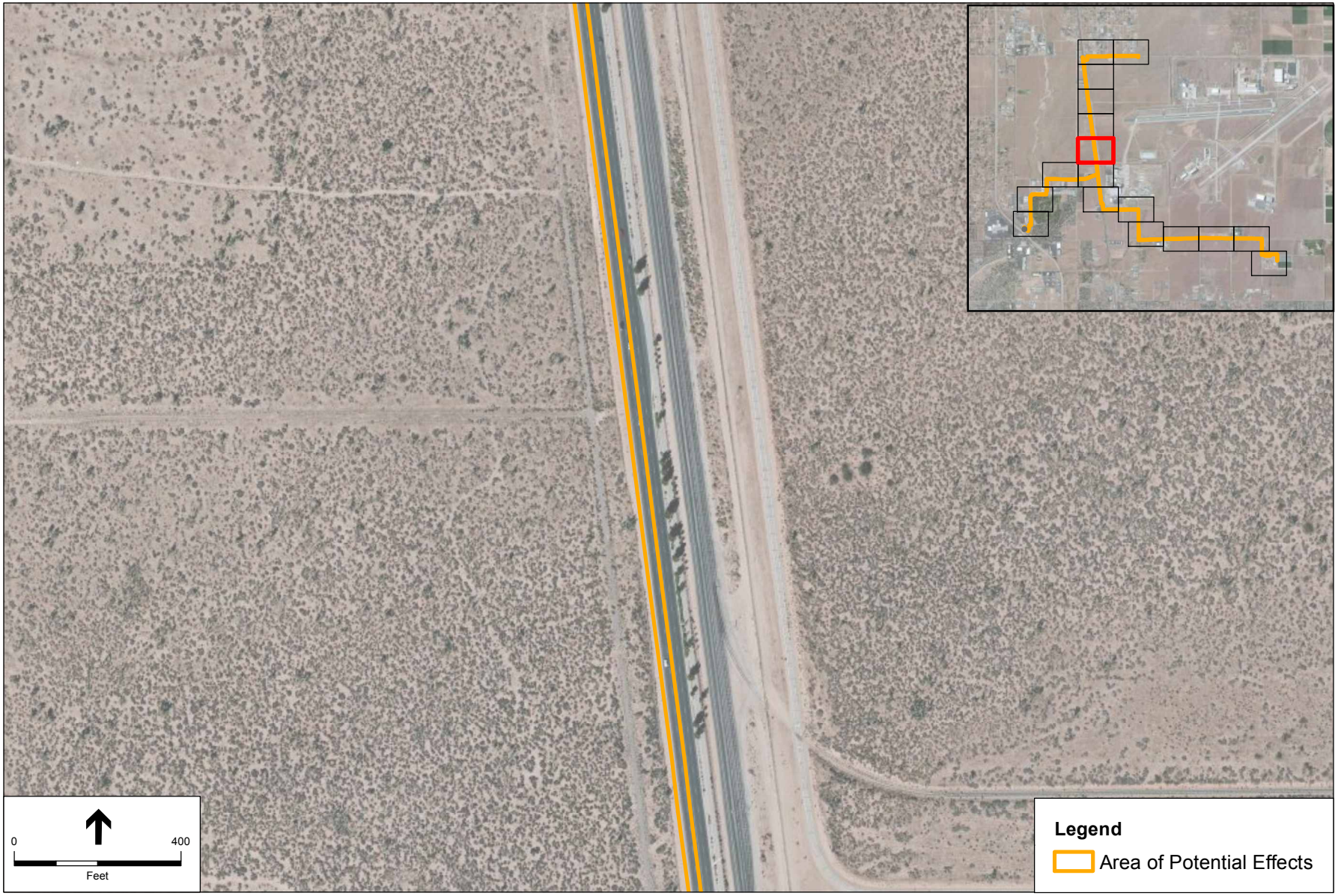


SOURCE: Bing Maps 2010. ESA, 2011.

Antelope Valley Regional Recycled Water. 209362

Figure 3-E

Area of Potential Effects



SOURCE: Bing Maps 2010. ESA, 2011.

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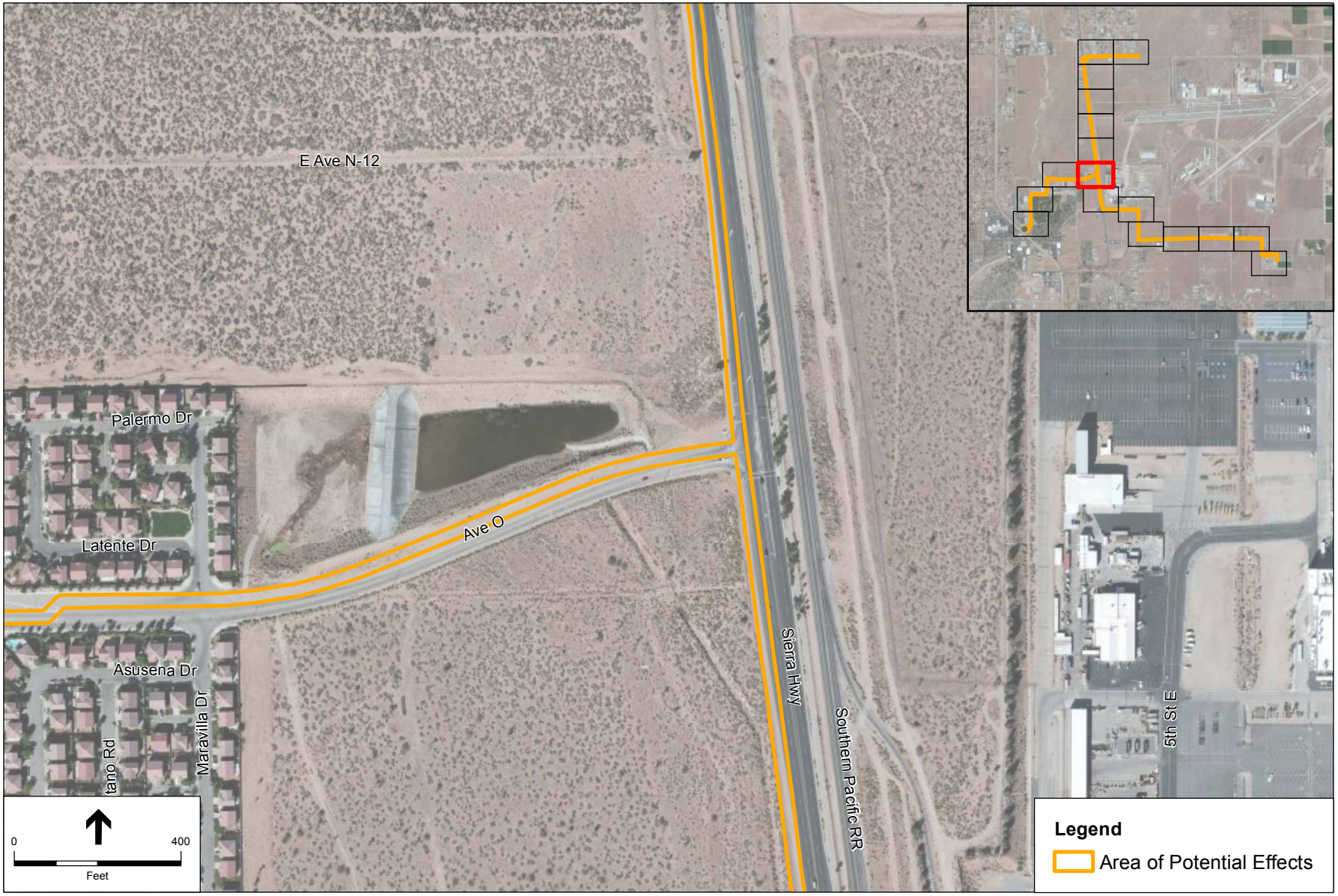
Figure 3-F

Area of Potential Effects

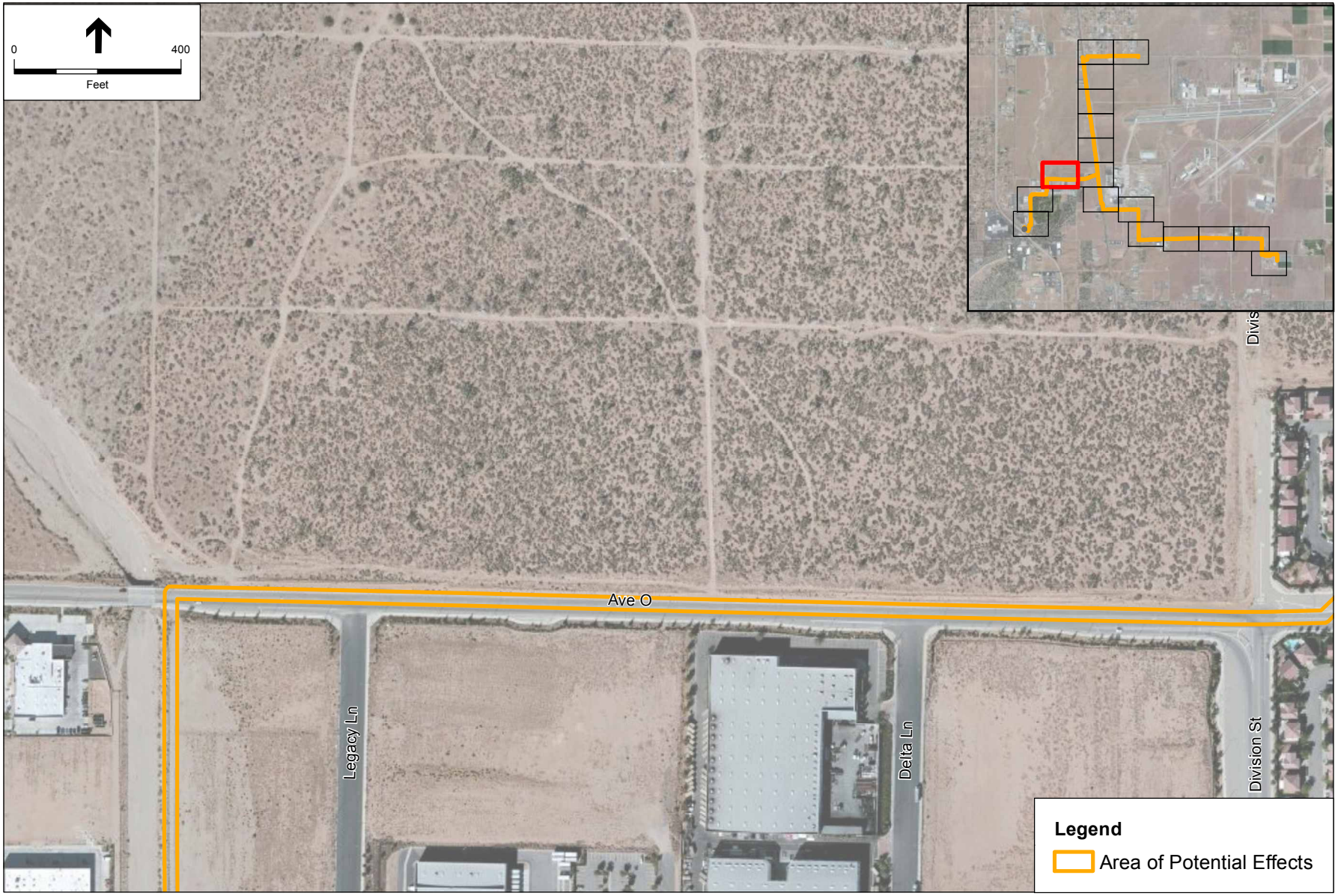


SOURCE: Bing Maps 2010. ESA, 2011.

Antelope Valley Regional Recycled Water. 209362

Figure 3-G

Area of Potential Effects



SOURCE: Bing Maps 2010. ESA, 2011.

Antelope Valley Regional Recycled Water. 209362

Figure 3-H

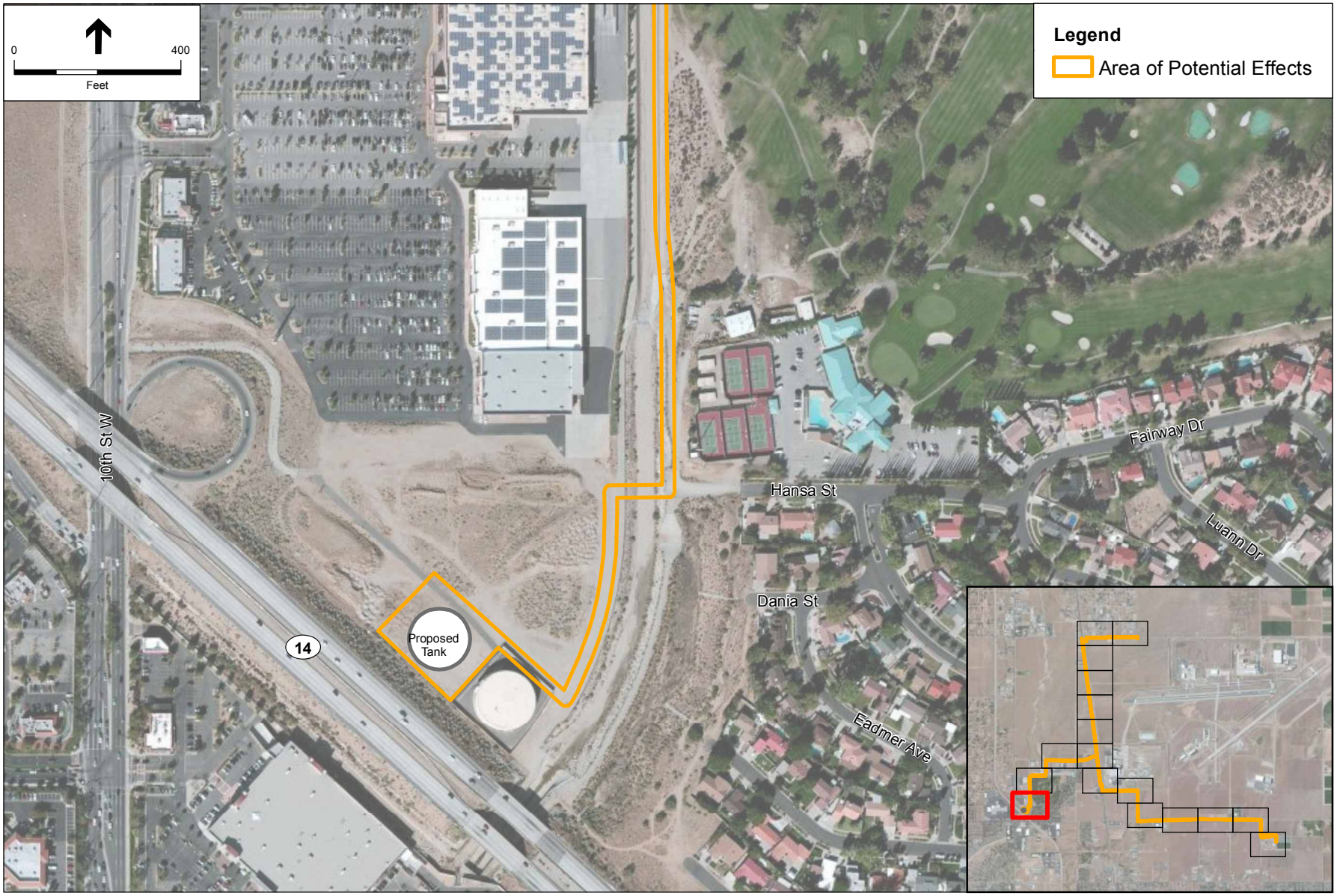
Area of Potential Effects

SOURCE: Bing Maps 2010. ESA, 2011.

Antelope Valley Regional Recycled Water. 209362

Figure 3-I

Area of Potential Effects



SOURCE: Bing Maps 2010. ESA, 2011.

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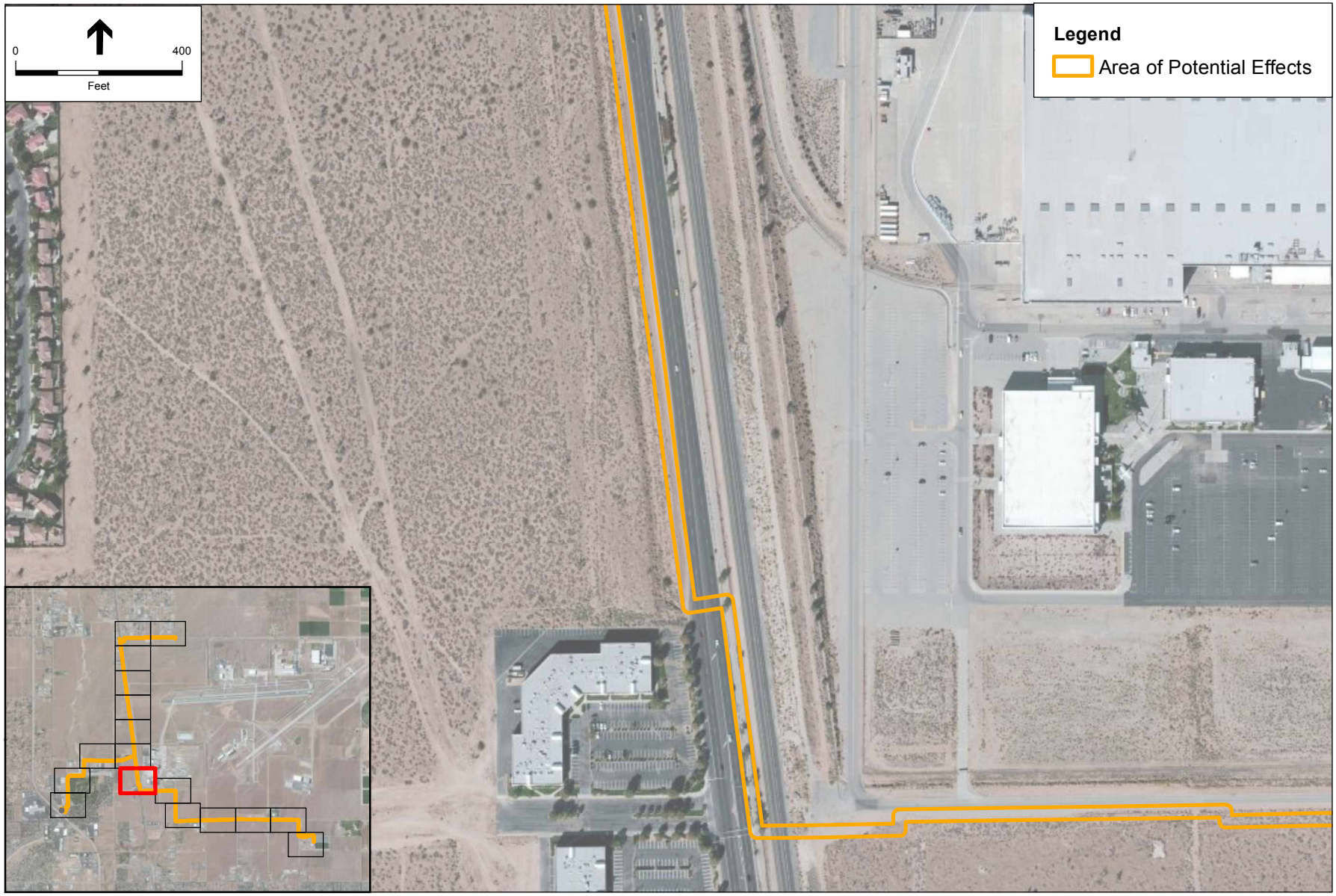
Figure 3-J

Area of Potential Effects



SOURCE: Bing Maps 2010. ESA, 2011.

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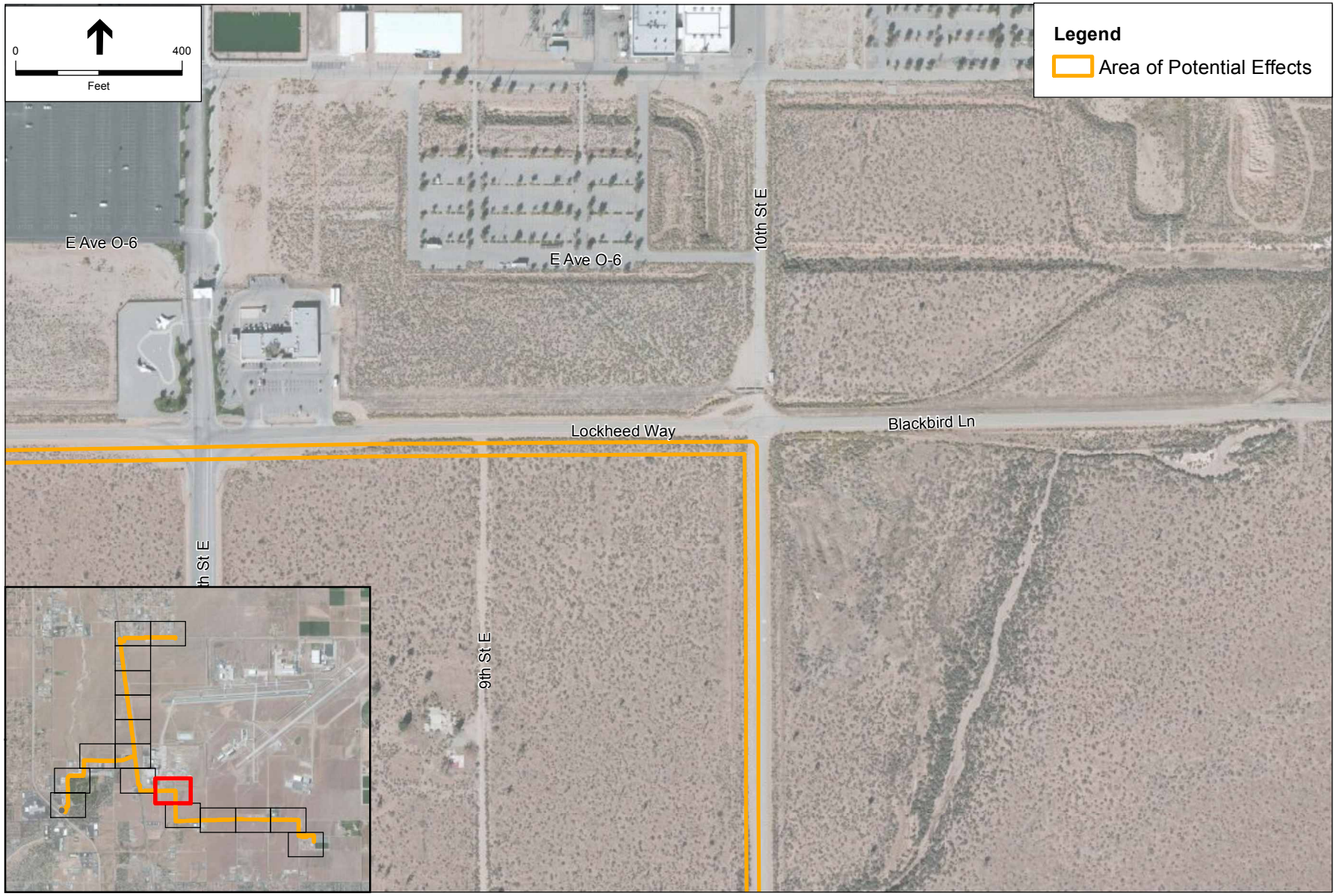
Figure 3-K

Area of Potential Effects



SOURCE: Bing Maps 2010. ESA, 2011.

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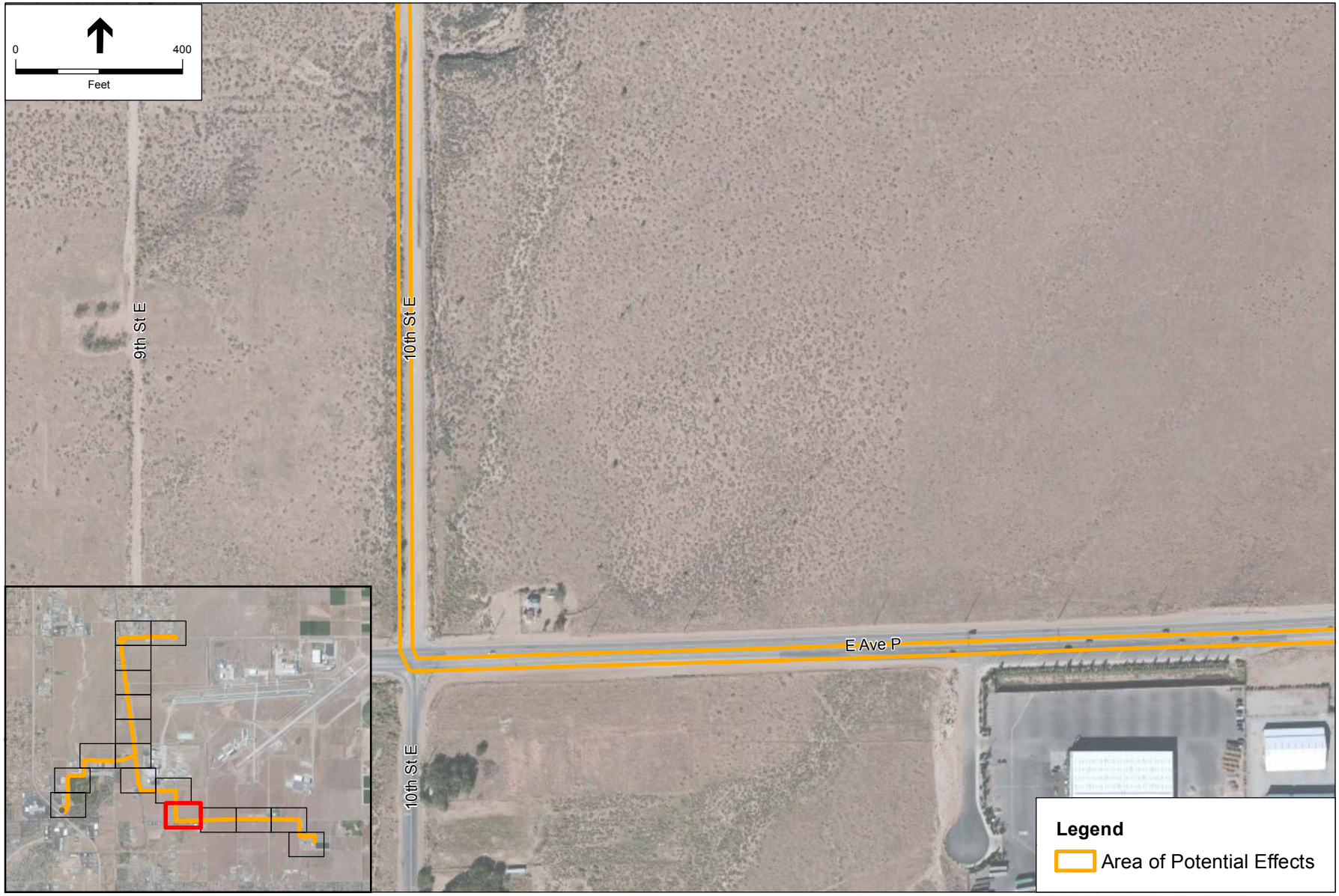
Figure 3-L

Area of Potential Effects



SOURCE: Bing Maps 2010. ESA, 2011.

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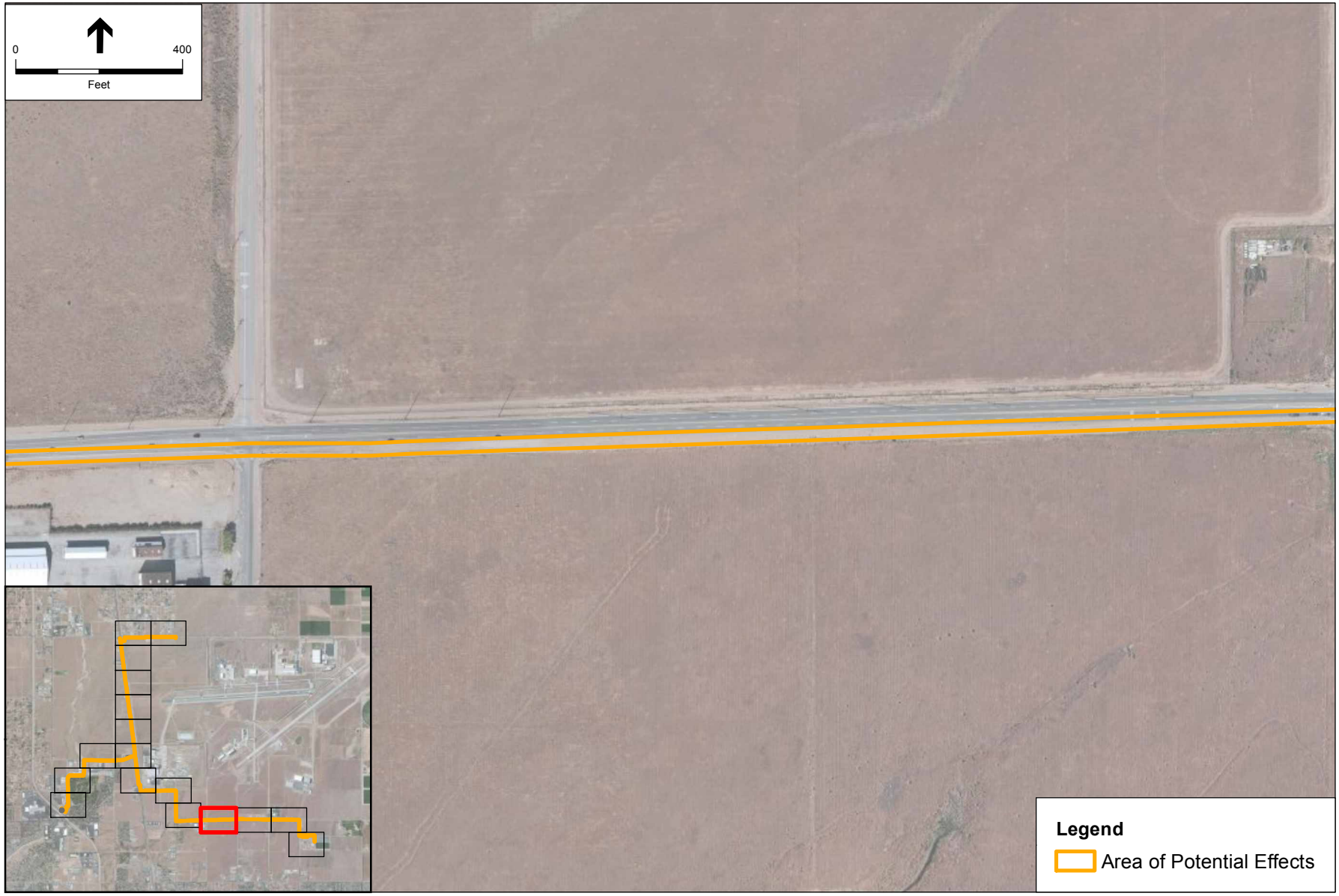
Figure 3-M

Area of Potential Effects



SOURCE: Bing Maps 2010. ESA, 2011.

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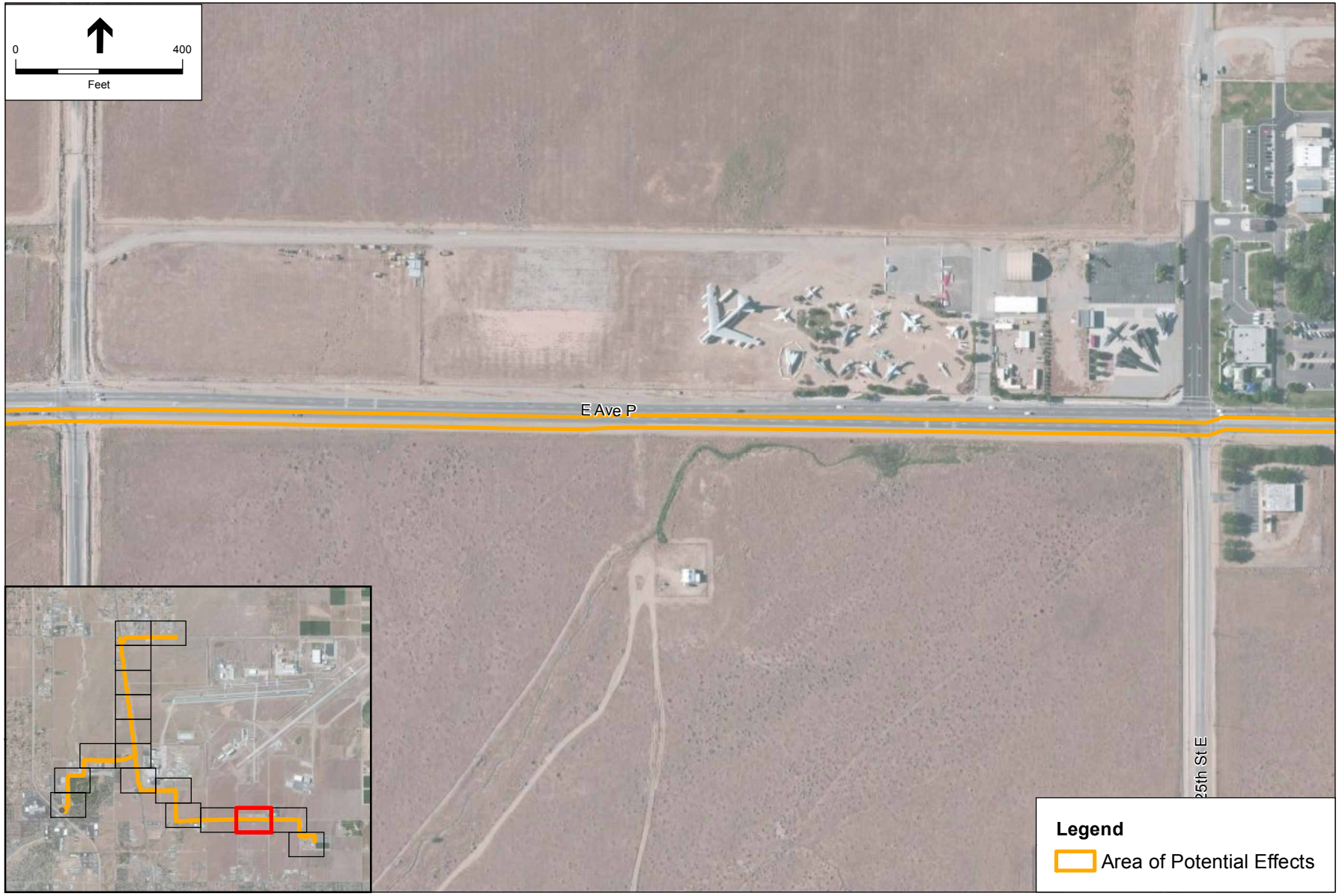
Figure 3-N

Area of Potential Effects

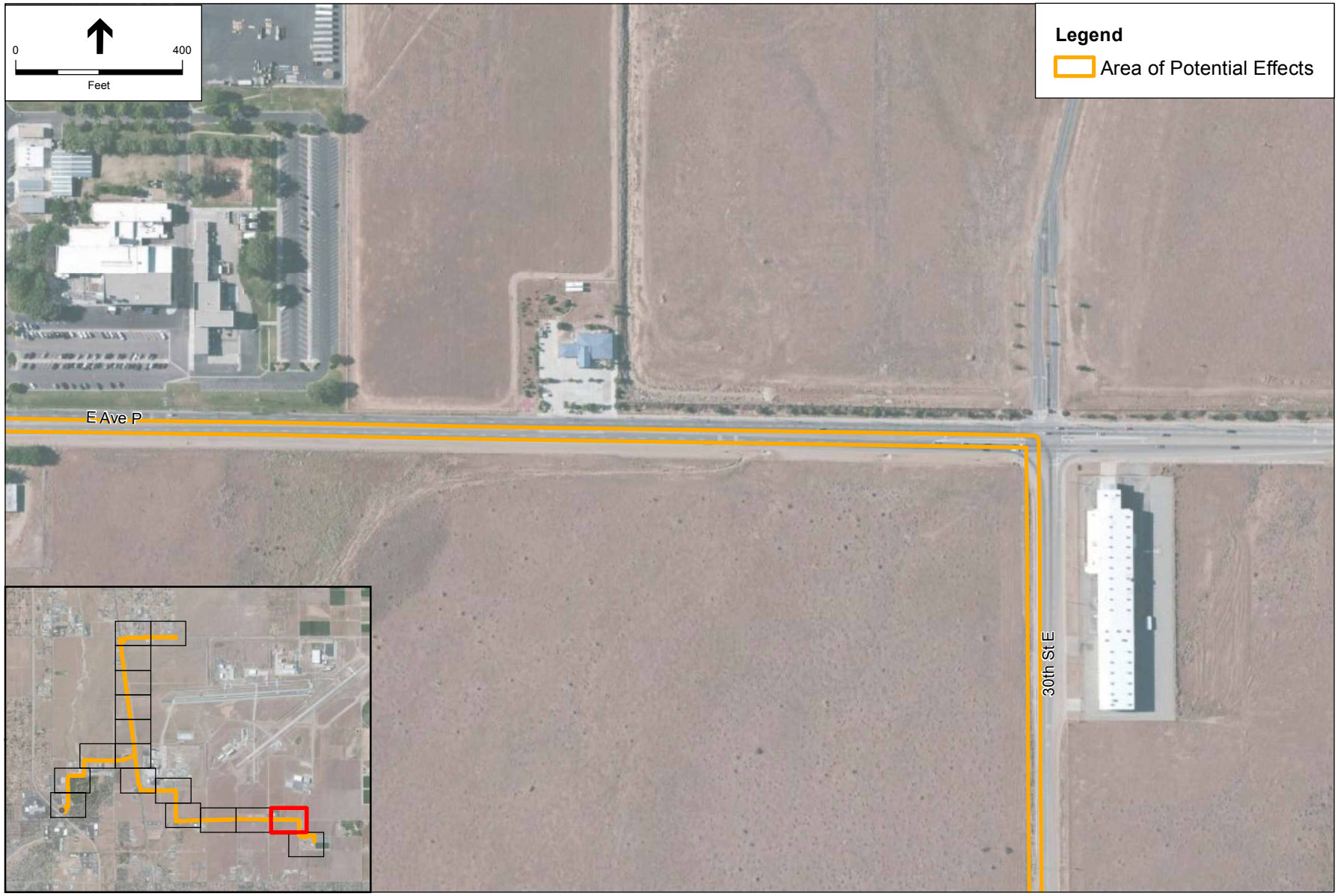


SOURCE: Bing Maps 2010. ESA, 2011.

Antelope Valley Regional Recycled Water. 209362

Figure 3-O

Area of Potential Effects

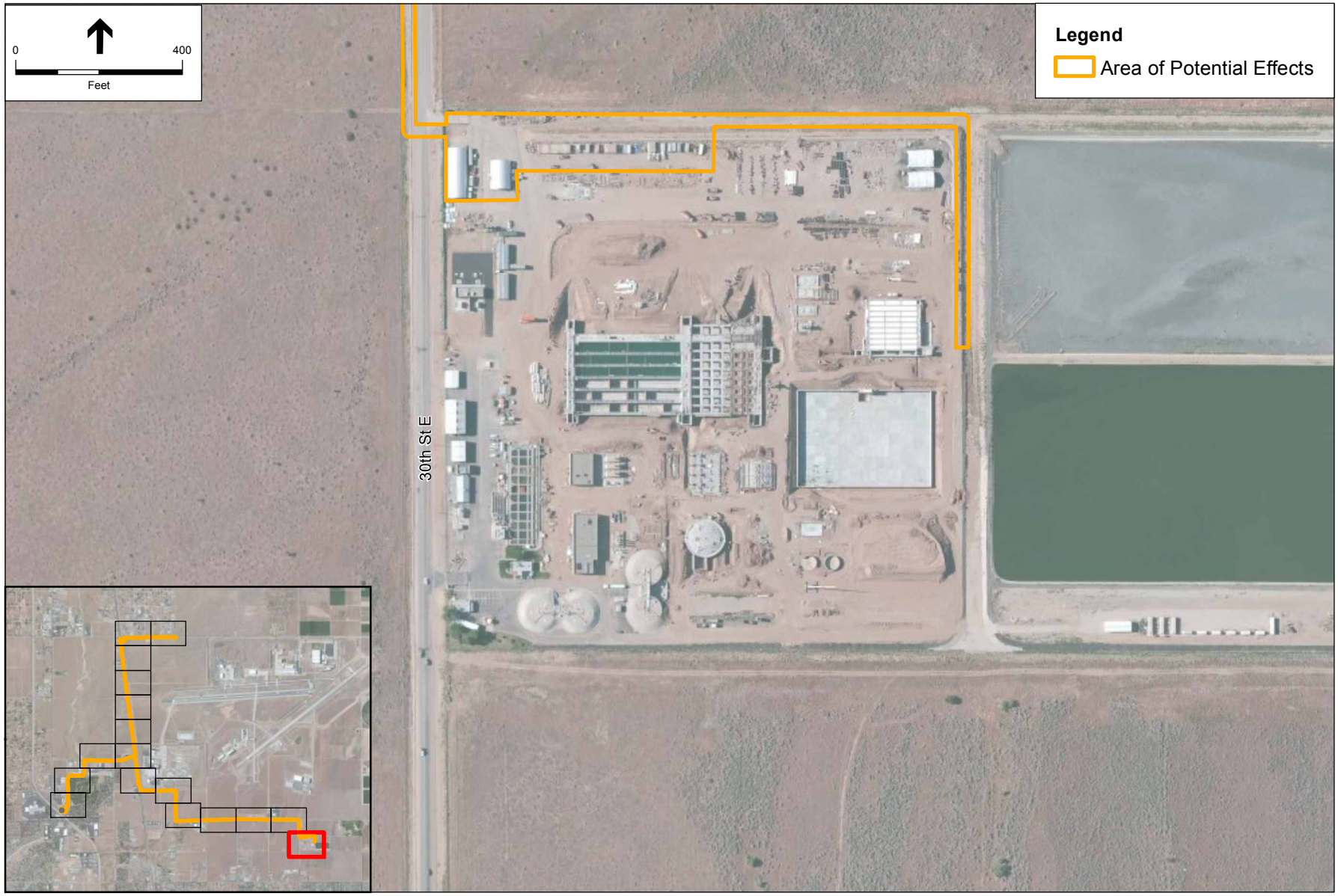


SOURCE: Bing Maps 2010. ESA, 2011.

Antelope Valley Regional Recycled Water. 209362

Figure 3-P

Area of Potential Effects



SOURCE: Bing Maps 2010. ESA, 2011.

Antelope Valley Regional Recycled Water. 209362

Figure 3-Q

Area of Potential Effects

Setting

Natural Setting

The APE lies within the Antelope Valley, which exists along the boundary between two major geomorphic provinces: the Transverse Ranges and the Mojave Desert (CGS, 2002). The Transverse Ranges province is characterized by east-west oriented ranges including the Tehachapi Mountains to the north, and the San Gabriel, Sierra Pelona and Liebre Mountains that rise abruptly along the southwestern side of the Antelope Valley. The Mojave Desert province is characterized primarily by a broad interior region of isolated mountain ranges separated by expanses of desert plains. The Mojave Desert province is wedged between the Garlock Fault and the San Andreas Fault, which have uplifted the surrounding mountains relatively rapidly, isolating the Mojave Desert from the Pacific Coast and creating the interior drainage basins of the western Mojave Desert, such as the Antelope Valley. The west end of the Antelope Valley is defined by the Tehachapi and San Gabriel Mountains, forming the v-shaped basin of the western Mojave Desert.

The Antelope Valley varies in elevation from 2,270 feet above mean sea level (amsl) on the desert floor to 3,000 to 4,000 feet amsl at the surrounding foothills. Due to its location in the rain shadow of the nearby San Gabriel Mountains, the Antelope Valley experiences a wide range of diurnal and seasonal temperature variations. Precipitation within the Antelope Valley averages just above five inches per year and falls principally as either rain or snow during October through March; however, tropical storms originating in the Pacific Ocean can cause as much as 20 percent of the annual rainfall to occur during the months of August through October (Grayson, 1993). In general, the southern foothills receive more precipitation than the drier, lower plains.

The Antelope Valley floor is mantled in thick deposits of Quaternary alluvial and lacustral (lakebed) sediments that have filled the West Antelope, East Antelope and Kramer structural basins. The alluvial sediments are subdivided into two units: the older (Pleistocene) Quaternary sediments, and younger (Holocene) alluvial surface deposits. These alluvial sediments are derived from nearby granitic mountains and have been deposited on the valley floor over the course of thousands of years.

In much of the Antelope Valley, a relatively thin layer of younger Quaternary alluvial sediments overlies the thicker older Quaternary sediments (Dibblee, 1963). The younger Quaternary valley alluvial deposits, composed of weathered soil material and poorly sorted clay, silt, and sand, may be up to several hundred feet thick in valley areas, and thinner on slopes at the valley margins.

Geologic maps (Dibblee, 1960; Hernandez, 2009) show that the APE is underlain by Quaternary (late Pleistocene and Holocene) alluvium.

Paleoenvironment

As glaciers in the western United States began to retreat between 12,000 and 10,000 years ago, the climate became dramatically warmer and drier, and vegetation communities such as piñon-juniper woodlands, along with the animals that relied on them, began to inhabit higher elevations (Price et al., 2008). During the late Pleistocene age, fossil evidence suggests that the Antelope Valley was inhabited by numerous large mammalian species including sloths, horses, bears, mammoth, bison, camels, as well as prong-horned antelope. Large carnivorous species included saber-toothed cats, wolves, mountain lions, desert coyotes and foxes, while smaller animals included rodent, rabbits, squirrels and a multitude of birds. Studies of pollen and pack rat middens suggest that desert vegetation began replacing the low-elevation woodlands between 12,000 and 8,000 year ago (Price et al, 2008). Evidence suggests that the plant and animal communities that exist within the Antelope Valley today did not become established until after 4,300 years ago.

The Antelope Valley is a closed basin; that is, a basin that has no outlet for its surface streams. All rainwater either sinks into the ground or collects in the lower part of the Valley. Data suggest that, during several periods of time, much of the Antelope Valley was covered by a large fresh-water lake, named Lake Thompson by modern researchers. By about 8,000 years ago, Lake Thompson appears to have receded and split into Rosamond, Buckhorn, and Rogers Lakes (Price et al., 2008). Amargosa Creek, one of the major drainages flowing from the Sierra Pelona Mountains into Lake Thompson, runs through the APE.

Prehistoric-era Setting

The prehistory of the Mojave Desert is generally described in terms of cultural "complexes." A complex is a specific archaeological manifestation of a general mode of life, characterized archaeologically by technology, artifact types, economic systems, trade, burial practices, and other aspects of culture. Complexes are typically associated with particular chronological periods. The prehistory of the Mojave is generally divided into the following time-periods/complexes: Paleo-Indian, Lake Mojave Complex, Pinto Complex, Gypsum Complex, Rose Springs Complex, and Late Prehistoric.

Paleo-Indian (10,000-8,000 B.C.)

The Paleo-Indian period is sparsely represented in the Mojave, primarily by large, fluted Clovis projectile points. This limited evidence suggests that early human occupants of the Mojave probably lived in small, mobile groups in temporary camps in the vicinity of permanent water sources (Sutton et al., 2007). In the Antelope Valley, a fragment of a fluted Clovis point was recorded on the southern slopes of the Tehachapi Mountains, and recent excavations at Rosamond Lake have documented a terminal Pleistocene/Early Holocene occupation (Pacific Legacy, 2007). In addition, the earliest occupation of CA-KER-2821/H, an extensive multicomponent site near Willow Springs, has been radiocarbon dated to 9020-9430 RCYBP (radiocarbon years before present) (Way, 2009).

Lake Mojave Complex (8,000-6,000 B.C.)

In terms of material culture, the Lake Mojave Complex is typified by stone tools such as Lake Mojave and Silver Lake projectile points, bifaces, steep-edged unifaces, crescents, and some ground stone implements (Sutton et al., 2007). Lake Mojave groups were organized in relatively small, mobile groups and practiced a forager-like subsistence strategy. Some trade with coastal groups was practiced, as evidenced by the presence of shell beads. Lake Mojave sites have been found primarily around Fort Irwin, Lake Mojave, Lake China, Rosamond Lake, and Twentynine Palms.

The Pinto Complex (6,000 to 3,000 B.C.)

Archaeological deposits dating from the Pinto Complex suggest that Pinto settlement patterns consisted of seasonal occupation by small, semi-sedentary groups that were dependent upon a combination of big and small-game hunting and collection strategies, which could include the exploitation of stream or water resources. Typically, sites of this period, which are far more geographically widespread than the Lake Mojave complex sites, are found along lakeshores and streams or springs, some of which are now dry. Material culture representative of this period in California prehistory include roughly formed projectile points, “heavy-keeled” scrapers, choppers, and a greater prevalence of flat millingstones and manos, indicating a more intensive use and processing of plant resources (Warren, 1984; Sutton et al., 2007). At the end of the middle Holocene, around 3,000 B.C., environmental conditions became much drier and hotter, and few sites in the Mojave date to the period between 3,000 and 2,000 B.C., suggesting that the area’s population may have decreased during this period of unfavorable climate (Sutton et al., 2007).

A number of Pinto sites have been recorded in the Antelope Valley, including at least six at the Edwards Air Force Base (Price et al., 2008).

Gypsum Complex (c. 2,000 B.C. to A.D. 200)

Many archaeological sites of this period are small and surficial, probably of a temporary nature. It is during this time, however, that more archaeological evidence suggestive of inter-tribal trade appears, particularly between the desert and the coast. At site CA-LAN-192 at Lovejoy Springs, which has a prominent Gypsum component, a group inhumation with at least nine individuals was uncovered, including a child buried with approximately 3,000 *Olivella* shell beads from the southern Californian coast (Price et al., 2008). The artifact assemblage associated with this period also includes an increased number of millingstones and manos, and it is believed that it was during this period that the pestle and mortar were introduced. These technological developments may point to the increased consumption of seeds and mesquite. Other artifacts associated with the Gypsum Period include Humboldt Concave Base, Gypsum Cave, Elko Eared, and Elko Corner-notched projectile points (Warren, 1984).

Rose Springs Complex (c. A.D. 200 to 1,200)

The general cultural pattern for this period is a continuation of that of the preceding Gypsum Period. Rose Springs archaeological sites are more numerous than previous periods and contain

more well-developed middens, indicating an increase in population and a more permanent settlement pattern (Sutton et al., 2007). In addition, the archaeological record attests to established trade routes between desert and coastal populations by way of shell beads and steatite, as well as an introduction of Anasazi influence from the eastern Great Plains as evidenced by the appearance of turquoise and pottery. Material culture related to this complex includes obsidian artifacts, Rose Spring and Eastgate projectile points, millingstones, manos, mortars and pestles, slate pendants, and incised stones (Warren, 1984).

The frequent use of obsidian is a defining feature of the Rose Springs period. Obsidian from the Coso volcanic field, 70 miles north of Mojave, was imported in near-finished form for use in making lithic tools (Price et al., 2008). The importing of obsidian seems to have dropped sharply at the end of the Rose Springs period, possibly associated with the Medieval Climatic Anomaly, a period of climate change between A.D. 800 to 1350, and the concurrent migration of Numic-speaking populations out of southeastern California and into the Great Basin.

Several periods of drought affected the Mojave in the Rose Springs period, associated with the Medieval Climatic Anomaly, and subsequent Late Prehistoric Period. Drops in the lake levels at Mono Lake attest to dry periods in A.D. 900-1100 and A.D. 1200-1350 (Price et al, 2008).

Several major Rose Springs villages or site complexes exist in the vicinity of the APE. A complex of 15 sites exists near Rosamond Lake, many of which are characterized solely by evidence of lithic reduction. Some of these sites have been dated to the Rose Springs Complex (Gardner, 2009). Site CA-KER-303, located about 20 miles west of Rosamond Lake, is defined by a large, deep midden, cemetery, artifacts interpreted as trade and luxury items, and evidence of structures. Several other smaller sites apparently ring CA-KER-303; these have been interpreted as “support sites” to the larger, primary village site (Sutton, 1988). Finally, CA-LAN-298, at Fairmont Butte, contains extensive and deep midden, rock art, and numerous bedrock milling features, and probably represents a village site associated with the rhyolite quarries at the butte (Sutton, 1988).

The Late Prehistoric Period (A.D. 1200 to European Contact)

Following periods of drought during the Rose Springs Period, wetter conditions returned between A.D. 1350 and 1600, associated with a climatic event known as the Little Ice Age (Price et al, 2008).

By the Late Prehistoric Period, an extensive network of established trade routes wound their way through the desert, routing goods to populations throughout the Mojave region. Near the APE, trade routes have been postulated as running along the foothills on the southern border of the Antelope Valley and along the Mojave River (Farmer, 1935; Sutton, 1988). The Antelope Valley sat at a convenient geographical location for controlling trade, between the Great Basin and the southern coastal region (Sutton, 1988).

It is also believed that these trade routes encouraged or were the motivating factors for the development of an “increasingly complex socioeconomic and sociopolitical organization” among Protohistoric peoples in southern California. Housepit village sites are prevalent during this

period, as are the presence of Desert Side-notched and Cottonwood projectile points, brownware and buffware ceramics, steatite shaft straighteners, painted millingstones, and, to a lesser degree, coastal shell beads. Beginning around A.D. 1300, however, a decline in trade occurred and well-established village sites were abandoned (Warren, 1984).

Ethnographic Setting

At the time of European contact, numerous groups occupied the area in and surrounding the Antelope Valley. The southeastern portion of the Valley, around the Mojave River, was inhabited by the Serrano and Vanyume. The territory of the Tataviam centered on the southwestern extent of the Antelope Valley, the Santa Clara River drainage, and possibly the Sierra Pelona Mountains and the Palmdale area (Sutton, 1988). The Kitanemuk inhabited the southern Tehachapi Mountains and the northern and central portion of the Antelope Valley. Finally, during the historic period, there is some evidence for the occupation of the Western Mojave by the Chemehuevi. The Tataviam and Chemehuevi, the two groups that are known to have lived in the vicinity of the APE, are described in more detail below.

A number of other groups neighbored the Antelope Valley and may have passed through the valley on occasion. To the north, the Kawaiisu occupied the southern Sierra Nevada and the northern Tehachapi Mountains, and may have also inhabited part of the western Mojave Desert (Sutton, 1988). The Chumash were present along the coast to the West, the Yokuts to the North, and the Mojave to the east.

Tataviam

Tataviam territory was concentrated along the upper reaches of the Santa Clara River drainage, east Piru Creek, and along the southern slopes of Sawmill and Liebre Moutains; however, their territory extended north into the southern end of the Antelope Valley (King and Blackburn, 1978). Tataviam villages varied in size from larger centers with as many as 200 people, to smaller villages with only a few families. At the time of Spanish contact, the Tataviam population is estimated to have been less than 1000. Primary vegetable food sources included acorns, juniper berries, seeds, and yucca buds. Small game such as antelope and deer supplemented these foods.

There are few historical sources regarding the Tataviam. The word “Tataviam” most likely came from a Kitanemuk word that may be roughly translated as “people of the south-facing slope”, due to their settlement on south-facing mountain slopes (King and Blackburn, 1978). What the Tataviam called themselves is not known.

Several Tataviam villages may have been located near the APE, including Kwarun (or Quariniga) at Elizabeth Lake (King and Blackburn, 1978).

Chemehuevi

The Chemehuevi, a branch of the Southern Paiute, had a territory that stretched from the Colorado River to the San Bernardino Mountains. The Chemehuevi moved into the eastern Mojave around 1500 A.D. and into the Antelope Valley in the early 19th century (Earle, 2005). By

the 1840s, many of the native populations of the Antelope Valley had been depleted by missionization or driven out by an increasing number of non-native settlers. In particular, the opening of the Old Spanish Trail along the Mojave River caused the displacement of Vanyme groups, and brought other native groups, such as the Chemehuevi, into their former territory (Earle, 2005). Early American settlers in the Antelope Valley note the presence of "Paiutes" around Elizabeth Lake, Rosamond Dry Lake, Barrel Springs, and Big Rock Creek in the Valyermo and Littlerock areas, where there were apparently small Chemehuevi settlements (Earle, 2005).

Chemehuevi material culture and subsistence was similar to the Serrano and Cahuilla. One major difference was the use of baskets instead of pottery (Bean and Vane, 2002). As the Chemehuevi population movement into the Antelope Valley, cattle raiding became the predominant mode of subsistence (Earle, 2005). The Chemehuevi were divided into two moieties represented by two songs, the Mountain Sheep Song and the Deer Song, which were each associated with different hunting areas. They generally lived in bands of two or three families, with each band having its own leader (Bean and Vane, 2002).

Historic-era Setting

The first Europeans known to have visited the Mojave were Pedro Fages in 1772 and Juan Bautista de Anza and Father Francisco Garces in 1774 (Greene, 1983). In 1775, Father Garces separated from de Anza and crossed the Mojave along the ancient Mojave Trail from Needles west to the San Gabriel Mission.

The Spanish missions that dotted the California coast never spread inland to the Mojave, and the desert remained relatively unexplored and unsettled by Europeans for much of the next century. The Romero-Estudillo Expedition of 1823-24 was an attempt by the Spanish to establish a secure route between the California Coast and Tucson; however, despite two attempts, the expedition never managed to make it as far as the Colorado River (Greene, 1983).

The first recorded American visitors to the Mojave were the party of Jedediah Smith, who crossed the Mojave along the Mojave Trail in 1826. Ewing Young and Kit Carson followed his route in the 1820s and 1830s. Kit Carson, who had participated in Jedediah Smith's 1828 expedition, later was the guide for John C. Fremont in 1844. This expedition was one of the first to document in detail the Antelope Valley.

Prior to the advent of the railroad, stagecoach routes were the primary means of transportation across the Antelope Valley. In 1876, the railroad came to the Antelope Valley when the Southern Pacific Railroad's line that ran south from the San Joaquin Valley was connected to the line from Los Angeles. In 1884, this line joined the Atchison, Topeka, & Santa Fe line that ran east through Needles (Pacific Legacy, 2007).

Although settlement had been encouraged by the Homestead Act of 1862 and the Desert Land Act of 1877, the Antelope Valley did not see much growth until after the coming of the railroad. Agriculture and ranching were the primary economic focus of homesteaders in the Antelope

Valley. During the initial wave of settlement in the 1880 and 1890s, dry-farming methods proved fairly successful. However, this was in large part because these were unusually wet years. A severe drought between 1894 and 1904 brought an end to most agricultural enterprises. After the drought, irrigation was used with some success, particularly for the cultivation of alfalfa, which became the Valley's primary crop (COLA Public Library, 2011).

City of Palmdale

In the 1880s, two small communities, Harold (Alpine Station) and Palmenthal, were established in the vicinity of what is now Palmdale. Palmenthal was established in 1886 when several families of Swiss and German descent emigrated to California from Nebraska and Illinois (City of Palmdale, 2009). Harold was originally known as Alpine Station and was founded at the intersection of Barrel Springs Road and the Southern Pacific Railroad. Many of these settlers who had moved to Palmenthal and Harold were unfamiliar with the desert climate. When drought occurred in the 1890s, many abandoned their farms. The residents of Palmenthal and Harold combined their communities and moved closer to the railroad, changing the name of the newly formed community to Palmdale in 1899.

As the population of Palmdale began to increase, water was an increasingly scarce commodity. However, in November 1913 the Los Angeles Aqueduct system was completed by William Mulholland, bringing water from the Owens Valley into Los Angeles County. Because of this new abundance of water, apple, pear and alfalfa crops became plentiful.

In 1918, the Palmdale Water District was formed in order to build up Palmdale Reservoir, originally a small sag pond, into a permanent reservoir. Between 1918 and 1919, the Palmdale Ditch was dug to bring water from Littlerock Creek to the reservoir. In 1924, the Littlerock Dam and the Harold Reservoir, present day Lake Palmdale, were constructed for the benefit of agriculture and to serve the growing communities (Love, 1989).

After the construction of the Littlerock Dam, the availability of water resulted in a flourishing agricultural industry in the area. Following major flooding in the San Gabriel Mountains in 1938 and resulting siltation of Littlerock Reservoir, however, agriculture in Palmdale went into decline. Nevertheless, agriculture continued to be the primary industry for Palmdale until the outbreak of World War II.

During and after World War II, the aerospace industry was dominant in the Antelope Valley. The Muroc Air Force Base (now Edwards Air Force Base) was established in Lancaster in 1933 (COLA Public Library, 2011). The United States government later bought Palmdale Airport in 1952 and established the United States Air Force Plant 42. One year later, in 1953, Lockheed established a facility at the airport. In August 1962, the township of Palmdale officially became the city of Palmdale with the incorporation of 2 square miles of land (COLA Public Library, 2011).

Regulatory Setting

Numerous laws and regulations require federal, State, and local agencies to consider the effects a Project may have on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies (e.g., State Historic Preservation Office and the Advisory Council on Historic Preservation). The NHPA of 1966, as amended, CEQA, and the California Register of Historical Resources (California Register), Public Resources Code (PRC) 5024, are the primary federal and State laws governing and affecting preservation of cultural resources of national, state, regional, and local significance.

Federal

Section 106 of the NHPA

Archaeological resources are protected through the NHPA of 1966, as amended (16 USC 470f), and its implementing regulation, Protection of Historic Properties (36 CFR Part 800), the Archaeological and Historic Preservation Act of 1974, and the Archaeological Resources Protection Act of 1979. Prior to implementing an "undertaking" (e.g., issuing a federal permit), Section 106 of the NHPA requires federal agencies to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation and the State Historic Preservation Officer a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the National Register of Historic Places (National Register). As indicated in Section 101(d)(6)(A) of the NHPA, properties of traditional religious and cultural importance to a tribe are eligible for inclusion in the National Register. Under the NHPA, a resource is considered significant if it meets the National Register listing criteria at 36 CFR 60.4.

National Register of Historic Places

The National Register was established by the NHPA of 1966, as "an authoritative guide to be used by federal, state, and local governments, private groups and citizens to identify the Nation's historic resources and to indicate what properties should be considered for protection from destruction or impairment" (Code of Federal Regulations [CFR] 36 Section 60.2). The National Register recognizes both historical-period and prehistoric archaeological properties that are significant at the national, state, and local levels.

To be eligible for listing in the National Register, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must meet one or more of the following four established criteria (U.S. Department of the Interior, 1995):

A. Are associated with events that have made a significant contribution to the broad patterns of our history;

B. Are associated with the lives of persons significant in our past;

C. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. Have yielded, or may be likely to yield, information important in prehistory or history.

Unless the property possesses exceptional significance, it must be at least fifty years old to be eligible for National Register listing (U.S. Department of the Interior, 1995).

In addition to meeting the criteria of significance, a property must have integrity. Integrity is defined as "the ability of a property to convey its significance" (U.S. Department of the Interior 1995). The National Register recognizes seven qualities that, in various combinations, define integrity. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association.

State

The State implements the NHPA through its statewide comprehensive cultural resources surveys and preservation programs. The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historic Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the State's jurisdictions.

California Register of Historical Resources

The California Register is "an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (California Public Resources Code § 5024.1[a]). The criteria for eligibility for the California Register are based upon National Register criteria (California Public Resources Code § 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a prehistoric or historical-period property must be significant at the local, State, and/or federal level under one or more of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

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

A resource eligible for the California Register must meet one of the criteria of significance described above, and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally determined eligible for the National Register;
- California Registered Historical Landmarks from No. 770 onward; and,
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (Those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register);
- Individual historical resources;
- Historical resources contributing to historic districts; and,
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the State and is codified at PRC Section 21000 et seq. CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or archaeological resources.

Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. The *CEQA Guidelines* (Title 14 California Code of Regulations [CCR] Section 15064.5) recognize that an historical resource includes: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political,

military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of CEQA and Section 15064.5 of the *CEQA Guidelines* apply. If a project may cause a substantial adverse change (defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired) in the significance of an historical resource, the lead agency must identify potentially feasible measures to mitigate these effects (*CEQA Guidelines* Sections 15064.5(b)(1), 15064.5(b)(4)).

If an archaeological site does not meet the criteria for a historical resource contained in the *CEQA Guidelines*, then the site may be treated in accordance with the provisions of Section 21083, which is a unique archaeological resource. As defined in Section 21083.2 of CEQA a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required.

The *CEQA Guidelines* note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (*CEQA Guidelines* Section 15064.5(c)(4)).

Local

City of Palmdale

The City of Palmdale's General Plan contains the following relevant goals, policies, and implementation measures concerning cultural resources (1993 [amended 2004])

GOAL ER7: Protect historical and culturally significant resources which contribute to the community's sense of history.

Objective ER7.1: Promote the identification and preservation of historic structures, historic sites, archaeological sites, and paleontological resources in the City.

Policy ER7.1.1: Identify and recognize historic landmarks from Palmdale's past.

Policy ER7.1.2: Promote maintenance, rehabilitation, and appropriate reuse of identified landmarks where feasible.

Policy ER7.1.3: Require that new development protect significant historic, paleontological, or archaeological resources, or provide for other appropriate mitigation.

Policy ER7.1.5: When human remains, suspected to be of Native American origin are discovered, cooperate with the Native American Heritage Commission and any local Native American groups to determine the most appropriate disposition of the human remains and any associated grave goods.

Implementation Measure B. Archaeological, Historical and Paleontological Measures (General Plan Amendment 04-01, adopted by City Council April 14, 2004.)

Historical, archaeological, and paleontological resource information maps have been prepared for use by City staff to identify areas with a high potential for resource sensitivity. The maps are used to evaluate the need for cultural resource surveys prior to development. (General Plan Amendment 04-01, adopted by City Council April 14, 2004.) Developments in areas which are likely to contain cultural resources will be required to perform surveys and submit reports. When resources are identified, appropriate testing and preservation, mitigation, or salvage will be required.

Research Methods and Results

Archival Research

A records search for the Project was conducted on July 1, 2010 at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton. The records search included a review of all previously recorded archaeological sites within a 1/2-mile radius of the APE, as well as a review of cultural resource reports on file. In addition, the California Points of Historical Interest (PHI), the California Historical Landmarks (CHL), the California Register, the National Register, and the California State Historic Resources Inventory (HRI) listings were reviewed for properties within or adjacent to the APE. The 1917 Elizabeth Lake 30-minute USGS topographic map; the 1933 Lancaster, 1937 Palmdale, and 1933 Tierra Bonita USGS 6-minute topographic maps; and the 1958 Lancaster East, 1958 Ritter Ridge, and 1958 Palmdale USGS 7.5-minute USGS topographic maps were also reviewed.

Previous Cultural Resources Investigations

The records search indicated that a total of 64 cultural resources studies have been conducted within a 1/2-mile radius of the APE (Table 1). Forty-four of these studies consisted of Phase I surveys and/or assessments; one was a monitoring report; five consisted of literature reviews or inventories; two were Phase II testing; five were environmental analyses; and seven were unspecified cultural resources studies. Of these 64 studies, 33 included portions of the APE (see Table 1).

TABLE 1
PREVIOUS CULTURAL RESOURCES STUDIES CONDUCTED WITHIN 1/2 MILE OF THE APE.

Author	Report No. (LAN-)	Title	Year
Love, Bruce	162*	*Archaeology Report for Avenue M Right-of-way and Amargosa Project*	1988
D'Altroy, Terence N.	553	*Archaeological Resources Report: the Potential Effect on Archaeological Resources of the Proposed Development of the 241.1-acre Rockwell-Palmdale Proposed Site X, Palmdale, California*	1979
Dosh, Steven G. and Weaver Jr., Donald E.	703*	*Archaeological Survey of Proposed Palmdale International Airport, Los Angeles County, California*	1980
Talley, Paige	1422	*Van Nuys Air National Guard Relocation Study Air Force Plant #42, Palmdale Naval Air Station, Point Mugu, Norton Air Force Base*	1984
Hemphill, Martha L.	1511	*Van Nuys National Guard Relocation Study Air Force Plant #42, Palmdale, California Supplemental Report Stage 2*	1985
Dillon, Brian D.	1547*	*An Archaeological Resource Survey and Impact Assessment or the Antelope Valley Master Plan of Drainage, Anaverde Basin, Los Angeles County, California*	1986
Singer, Clay A.	1621	*Cultural Resources Analysis for the Proposed Antelope Valley Mall EIR, Los Angeles County, California*	1987
Blodgett, Leslie M.	1717*	*Report of Archival Search and Field Inspection of Approximately 4.5 Linear Miles and Proposed Detention Basin Along Amargosa Creek in Palmdale, California*	1988

Author	Report No. (LAN-)	Title	Year
Wessel, Richard L.	1723*	*Report of Archaeological Reconnaissance Survey (reference File Vs-723) of Proposed 10th Street Assessment District No. 88-1, City of Palmdale, California*	1989
Singer, Clay A. and Atwood, John E.	1732*	*Cultural Resources Survey and Impact Assessment for Lots 3 Through 6 of Tract 42991 in Palmdale, Los Angeles County, California*	1988
Love, Bruce	1792*	*Archaeological Assessment of Thirty Five Acres on Lockheed Way and 5th Street East, Palmdale, Los Angeles County, California*	1989
Padon, Beth	1799	*Historic Property Survey Report Widening Avenue City of Palmdale*	1989
Norwood, Richard H.	1851	*Cultural Resource Survey for 40.85 Acres, Palmdale, California*	1989
Dillion, Brian D.	1853	*An Archaeological Resource Survey and Impact Assessment of Dean Parcel, Avenue N and Division Street, Palmdale, California*	1986
Norwood, Richard H.	1857*	*Cultural Resource Survey Lockheed Plant 10 Expansion, Palmdale, California*	1989
Robinson, R.W.	1910	*Cultural Resources Investigation Re: Forty Acres Located in Shannon Valley North Los Angeles County, California*	1981
Anonymous	1933*	*Draft Environmental Impact Report Cup 89-26 American National Can Company Palmdale, California*	1989
Norwood, Richard H.	1945*	*Cultural Resources Survey for Tract No. 46047 Palmdale, California*	1989
Norwood, Richard H.	1949*	*Cultural Resource/Archaeological Report: Cultural Resource Survey for 4.26 Acres in Palmdale, California*	1990
Becker, Kenneth M.	1969*	*Cultural Resources Reconnaissance of the Freeway Business Park Palmdale,960 Acres in Los Angeles County, California*	1990
Norwood, Richard H.	2022	*Cultural Resources Survey for Zone Change Case no. 90-02 Palmdale, California*	1990
Norwood, Richard H.	2023	*Cultural Resources Survey for Tentative Tract no. 49241 Palmdale, California*	1990
Thomas, Kevin	2052*	*Draft Environmental Impact Report Palmdale Trade and Commerce Center Specific Plan*	1990
Robinson, R.W.	2323*	*A Cultural Resources Investigation of a Portion of the Amargosa Within the City of Palmdale, Los Angeles County, California*	1990
Robinson, R.W.	2352*	*A Cultural Resources Investigation of Tentative Tract 46925 in the City of Palmdale, North Los Angeles County, California*	1989
Norwood, Richard H.	2406	*Archaeological Investigation of Historic Site LAN 1554H: Schneckenberger Homestead, Palmdale, California*	1991
White, Robert S.	2422	*An Archaeological Assessment of Tentative Tract 48032, and 8.9-acre Parcel Adjacent Dianron Road, Palmdale, Los Angeles County, California*	1989
Campbell, Mark S.	2424	*Archaeological Study for Conditional Use Permit Application for the Proposed Palmdale Hospital Medical Center, Palmdale, Los Angeles County, California*	1990
Drover, Christopher E.	2476*	*Environmental Impact Evaluation: an Archaeological Assessment of the Industry Trade Center Specific Plan Palmdale, California*	1991
Robinson, R.W. and Kerrie L. Kirkbride	2485	*A Cultural Resources Investigation of Five Acres in the City of Palmdale, Los Angeles County, California*	1990
Becker, Kenneth M.	2634	*Cultural Resources Reconnaissance of Antelope Valley Courts Facility, City of Lancaster, Los Angeles County, California*	1992
Anonymous	2703	*Draft Focused Environmental Impact Report Sanitary Sewer Line Portion Amargosa Creek Improvement (Phase I)*	1991

Author	Report No. (LAN-)	Title	Year
McKenna, Jeanette A.	2837*	*Archaeological, Historical, and Paleontological Investigations of the Proposed Business Park Center Specific Plan Project Area, City of Palmdale, County of Los Angeles, California*	1993
Gibson, Robert O.	3017	*Results of Archaeological Records Check for Mojave Alternatives of the Pacific Pipeline Project City of Palmdale, County of Los Angeles, California*	1994
Bissell, Ronald M.	3591	*Cultural Resource Reconnaissance of a Nine Acre Parcel in Palmdale, Los Angeles County, California*	1997
Shaver, Chris	3987	*Cultural Resources Investigation for Air Force Plant 42, Los Angeles County, California*	1997
Unknown	4008*	*Cultural Resources Investigation Pacific Pipeline Emido Route*	1996
Romani, John F.	4070*	*Letter Report: Phase I Cultural Resource Evaluation for the Los Angeles Air Route Traffic Control Center (ARTCC), Child Care Facility, Palmdale, California*	1995
Love, Bruce	4141*	*Cultural Resources Report Bakersfield-Rialto Fiberoptic Line Project Kern, Los Angeles, and San Bernardino Counties, California*	1997
Trnka, Joseph	4329*	*Historic Building Inventory and Evaluation Air Force Plant 42 Palmdale, California*	1997
Singer, Clay A.	4393	*Cultural Resources Survey and Impact Assessment for a Commercial Property at the Intersection of Avenue M and Sierra Highway in the City of Palmdale, Los Angeles County, California*	1998
Padon, Beth	4727	*Negative Archaeological Survey – Avenue M*	1989
Sylvia, Barbara	5253*	*Negative Archaeological Survey Report: Route 14-98.9/r99.33-07-174-1y0701*	2000
Duke, Curt	5671	*Cultural Resource Assessment: Cingular Wireless Facility No. Vy 152-01 Los Angeles County, California*	2001
Demcak, Carol R.	6646*	*Report of Phase I Archaeological Assessment of a Parcel in Palmdale, Los Angeles County, California*	2002
Weaver, Donald E., Jr.	6706*	*Archaeological Investigation Archaeological Survey of the Proposed Palmdale International Airport Los Angeles County, California*	1980
Goodwin, Riordan L.	7160*	*Archaeological Survey and Historic Property Reports Rancho Vista Boulevard Widening Project City of Palmdale*	2004
Everson, Dicken and Mathew Wetherbee	7177*	*Historical/Archaeological Resources Survey Report Sierra Gateway Project Tentative Tract No. 42991 City of Palmdale, Los Angeles County, California*	2004
McKenna, Jeanette A.	7519	*A Phase I Cultural Resources Investigation of Associated Ready Mix Concrete, Inc. Property (APN 33126-016-026), Approximately 2.11 Acres in the City of Lancaster Los Angeles County, California*	2006
Hudlow, Scott M.	7967	*A Phase I Cultural Resources Survey for Property on Avenue M, APN 3128-013-015 and -016, City of Palmdale, California*	2006
Tang, Bai "Tom", Michael Hogan, and Josh Smallwood	7991*	*Cultural Resources Technical Report City of Lancaster General Plan Update*	2006
Merrill, Michael and Romani, John F.	8368	*Results of Archaeological Monitoring for Stc Netcom, Inc. at Sce Oasis Substation in Palmdale California*	2004
Cooley, Theodore G.	8425*	*Archaeological Survey Report for Southern California Edison Company Acton Substation Loop-in Project, Los Angeles County, California*	2007
Cooley, Theodore G.	8427*	*Archaeological Survey Report for Southern California Edison Company 66kv Antelope Bus Split Project Los Angeles County, California*	2007

Author	Report No. (LAN-)	Title	Year
Lloyd, Jay B. and David Price	8957*	*Cultural resources Survey for the Palmdale Water Reclamation Plant Project Los Angeles County, California*	2007
Robinson, R.W.	9143	*A Cultural Resources Investigation of a One Acre Parcel in East Lancaster, California*	2008
Ahmet, Koral	9374*	*An Archaeological Survey of Fiber optic Cable Pole 1008475H to the Ice House (Boeing Palmdale, Los Angeles County, California*	2008
Bholat, Sara and Evelyn Chandler	9418	*Cultural resources Survey of Three Wells in the City of Palmdale, Los Angeles County, California*	2008
McKenna, Jeanette A.	9457*	*A Phase I Cultural Resources Survey of the Strategic Realty Investors, Inc. Property at Avenue P and 10th Street East, ApNs 3022-022-005 and -023, Approximately 17.5 Acres in Palmdale, Los Angeles Co. CA*	2007
Loftus, Shannon L. and Robin D. Turner	9679*	*Cultural Resource and Paleontological Assessment, North Los Angeles/Kern County, Regional Recycled Water Master Plan, Los Angeles/Kern Counties, California*	2008
White, Laura S. and Robert White	10057	*A Cultural Resources Assessment of a 13Acre Parcel Located Immediately Southwest of the Intersection of 10th Street West and Avenue O-8, City of Palmdale, Los Angeles County*	2003
Hudlow, Scott M.	10061	*A Phase II Cultural Resource Survey for APN 3005-005-010, 15th Street West and Avenue P, City of Palmdale, Los Angeles County*	2006
DeGiovine, Michael M. and Wilson, Stacy L.	10144	*Second Addendum: Archaeological Survey Report for Southern California Edison Company 66kv Antelope Bus Split Project Los Angeles County, California*	2008
Bonner, Wayne H.	10246	*Cultural Resources Records Search and Site Visit Results for T-Mobile USA Candidate SV12210A (Palmdale) Los Angeles County, California*	2009

*indicates study overlapping with APE

In 2008, a cultural and paleontological resources assessment was prepared for the North Los Angeles Kern County Regional Recycled Water Master Plan (Loftus and Turner, 2008), which encompassed 70 linear miles of proposed pipeline and eight potential pump station and reservoir localities. This previous study encompassed 3.5 miles of the current APE, including the portion of the APE along Avenue M and Sierra Highway between Avenue M and Lockheed Way. As a result of that study, a total of 23 historic-era archaeological sites, eight prehistoric archaeological sites, two historic-era built features, six prehistoric isolates, and two historic-era isolates were recorded within or adjacent to the North Los Angeles Kern County Regional Recycled Water Master Plan area. In addition, a historic mining site, the Tropico Hill Mine, and a historic home site were identified, but not recorded. None of these resources are located within the current APE.

Previously Recorded Cultural Resources

A total of 30 cultural resources have been previously recorded within ½ mile of the APE (Table 2). Twenty-six of these are historic-era archaeological sites, one is a multicomponent archaeological site, one is an isolated prehistoric artifact, and two are historic (built) resources. Of the 30 previously recorded resources, two of these resources (P-19-180638 and P-19-003705) are located within the Project APE. These are described in detail below.

TABLE 2
PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN 1/2 MILE OF THE APE

Permanent Trinomial (CA-LAN-)	P-Number	Description	Date Recorded
1367H	19-001367	Historic Site with Foundations	1985
1554H	19-001554	Historic Site- Possible Homestead	1989
1601	19-001601	Multicomponent Site- Possible Homestead. Cement, Trash pit, metate fragment.	1989
1623H	19-001623	Historic Trash Scatter –dating 1925 to 1955	1989
2194H	19-002194	Historic Scatter with Asphalt	1985
2196H	19-002196	Cement Irrigation Pipes Pre-1940	1994
2690H	19-002690	Historic Scatter and Foundation	1996
2709H	19-002709	Historic Scatter: Cans, Bottles, and Metal	1996
2710H	19-002710	Historic Scatter: Cans, Bottles, and Metal	1996
2711H	19-002711	Historic Scatter: Cans, Bottles, and Metal	1996
2712H	19-002712	Historic Scatter: Cans, Bottles, and Metal	1996
2727H	19-002727	Historic Scatter: Cans, Bottles, and Metal	1996
2728H	19-002728	Historic Scatter: Cans, Bottles, and Metal	1996
2729H	19-002729	Historic Scatter: Possible Homestead	1996
2730H	19-002730	Historic Scatter: 8 loci of historic debris	1996
2756H	19-002756	Historic Scatter: Cans, Glass, Bottles, Nails	1989
3185H	19-003185	Historic Scatter: Cans, Bottles, Auto Parts, and Metal	2004
3186H	19-003186	Historic Scatter: Cans, Bottles, Glass, and Metal	2004
3187H	19-003187	Historic Scatter: Cans, Bottles, and Metal Pipe	2004
3188H	19-003188	Historic Scatter: Cans, Glass, Tobacco Tins, and Metal	2004
3189H	19-003189	Historic Scatter: Cans, Glass, Tobacco Tins, and Metal	2004
3190H	19-003190	Historic Scatter: Cans, Glass, Auto Parts, and Metal	2004
3258H	19-003258	Historic Scatter: 700+ cans, bottles, household debris	2004
3703H	19-003703	Dense Historic Scatter: 1950's to 1970's	2007
3704H	19-003704	Dense Historic Scatter: Pre-1950's	2007
3705H	19-003705*	Historic Scatter: Cans, Bottles, Glass, Bricks, Wood, and Metal	2007
3709H	19-003709	Pump and Concrete Cylinder	2007
-	19-100303	Isolate White Chalcedony Core	1999
-	19-180638*	Built historic resource: Segment of Southern Pacific Railroad	1996
-	19-180680	Built historic resource: Building 150 Aircraft Production Building	1996

*indicates within APE

Resources Located within the APE

P-19-003705

Site P-19-003705 consists of a historic trash scatter on both sides of 10th Street East, measuring approximately 1200ft x 140ft, first recorded in 2007 by Jones and Stokes (Craft et al., 2007). The artifacts consist of metal cans, glass bottles, burnt wood, bricks, and household ceramics. Most of the artifacts range in dates between 1920's and 1970's. One amethyst glass fragment was also recorded.

P-19-180638

This resource is a 40-meter segment of the Southern Pacific Railroad, recorded by Jones and Stokes in 1998 (O'Brien, 1998). The railroad was originally constructed in 1876. It is a standard gauge track, still in use and maintained. Because of constant maintenance and track replacement the only remaining historic feature of the resource is its route; dates of "1995" are embossed on the track.

Historic Map Review

The maps indicate little development in the vicinity of the APE. The Southern Pacific Railroad and Sierra Highway are indicated on all maps. West of the Sierra Highway, one structure first appears near the APE on the 1933 Lancaster map. This map and the 1917 Elizabeth Lake map also show an unpaved road crossing the APE where it parallels modern-day Avenue O, running from Sierra Highway to the northwest and terminating south of Avenue N. East of Sierra Highway, 20th Street West is shown on the 1917 map, as is a structure at the location of the present-day PWRP. Avenue P and 10th Street West are shown on the 1933 map, as are several structures located north of the APE along Avenue P. By 1958, some development has occurred in the vicinity of present-day Blackbird Lane and 10th Street West, both of which are indicated on the map. By this time, one structure is also indicated south of the APE near Blackbird Lane.

Native American Contact

A Sacred Lands File (SLF) search for the survey areas was requested from the California Native American Heritage Commission (NAHC) on July 1, 2010. The SLF search results prepared by the NAHC on July 2, 2010 failed to indicate the presence of Native American cultural resources within the APE (Appendix B). The NAHC results also noted, however, that there are known Native American resources "in close proximity to" the APE.

Follow-up correspondence was conducted with all individuals and groups indicated by the NAHC as having affiliation with the survey areas. Follow-up correspondence consisted of a letter describing the Project and a map indicating the survey areas. Recipients were requested to reply with any information they are able to share about Native American resources that might be affected by the Project. To date, no responses have been received.

Survey

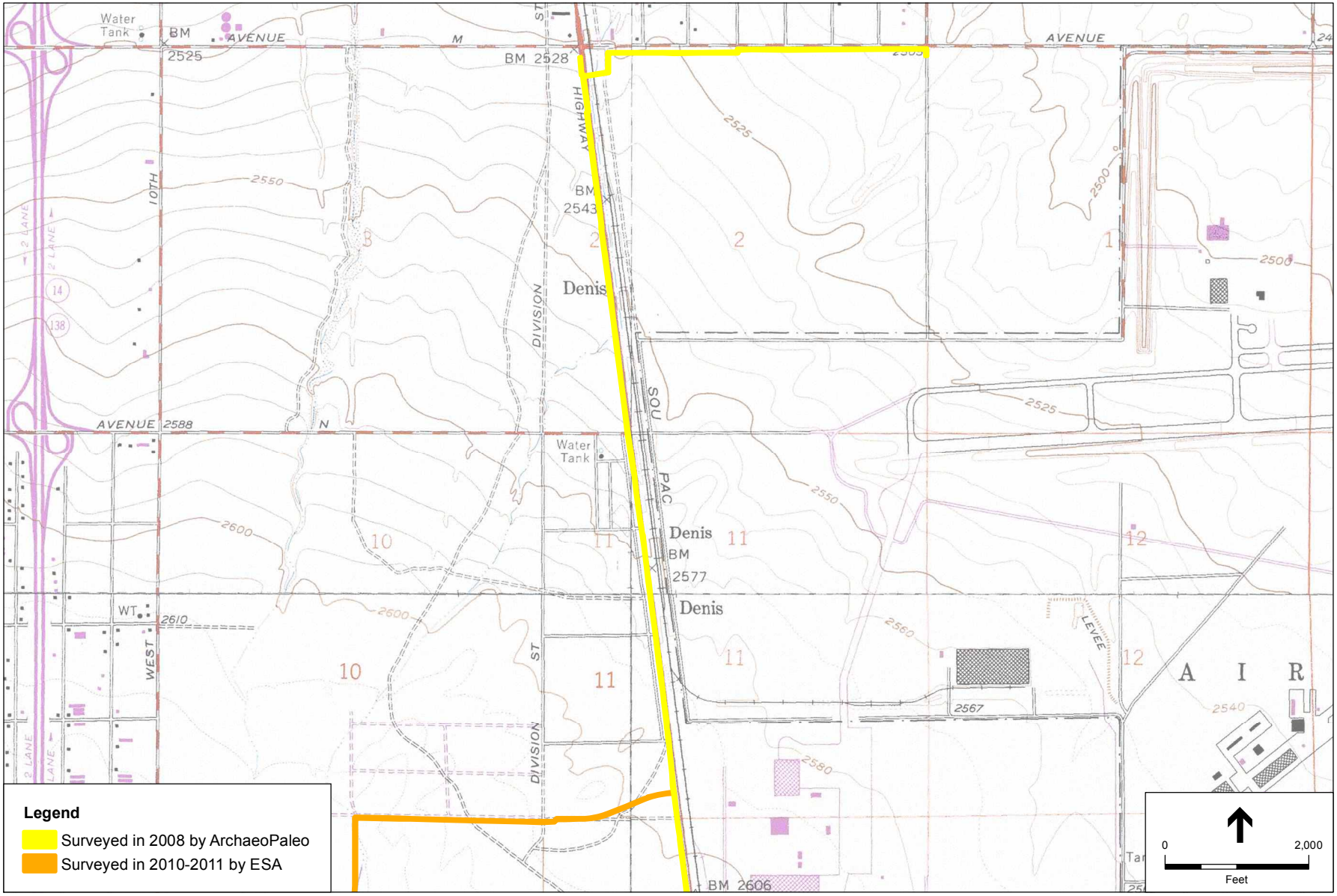
Methods

The previous study prepared for the North Los Angeles Kern County Regional Recycled Water Master Plan (Loftus and Turner, 2008) included an archaeological survey of 3.5 miles of the current APE. Because this area had been so recently surveyed, it was not surveyed as part of the current effort. Field survey of the remaining 5.25 linear mile APE was conducted on July 23, 2010 by ESA archaeologists Madeleine Bray, M.A., RPA, and Damien Tietjen (Figure 4). Additional site recording was performed on January 27, 2011. Survey of the proposed water tank location was conducted on October 7, 2011.

Areas that were not built-up or otherwise disturbed were subject to intensive pedestrian survey. Because the width of the APE had not yet been defined at the time of archaeological survey, an arbitrary survey area was delineated that consisted of an approximately 150-foot wide corridor centered on the pipeline centerline (pipeline survey area). In practice, this amounted to survey of one transect (15 meters or 50 feet) on either side of paved roads. Any cultural resources encountered were provided with temporary designations if necessary and were documented and recorded on the appropriate Department of Parks and Recreation (DPR) 523 forms (Appendix C).

The site of the proposed water tank is a heavily disturbed area with an existing water tank, bounded on the east by the channelized Amargosa Creek, on the southwest by Highway 14 and on the North by a shopping center (Figure 5). The site itself consists of a gravel road and numerous mechanically-made push piles and previously disturbed soil.

The proposed pump station location at the PWRP was subject to a reconnaissance level survey, due to ongoing construction activities in the area. The PWRP was a highly disturbed area, and much of the ground was obscured by construction equipment or vehicles (Figure 5). The survey area for the proposed pipeline was found to consist primarily of graded dirt road shoulders and, beyond that, disturbed desert scrub (Figure 6). Visibility was good throughout the survey area.



SOURCE: USGS, 2011.

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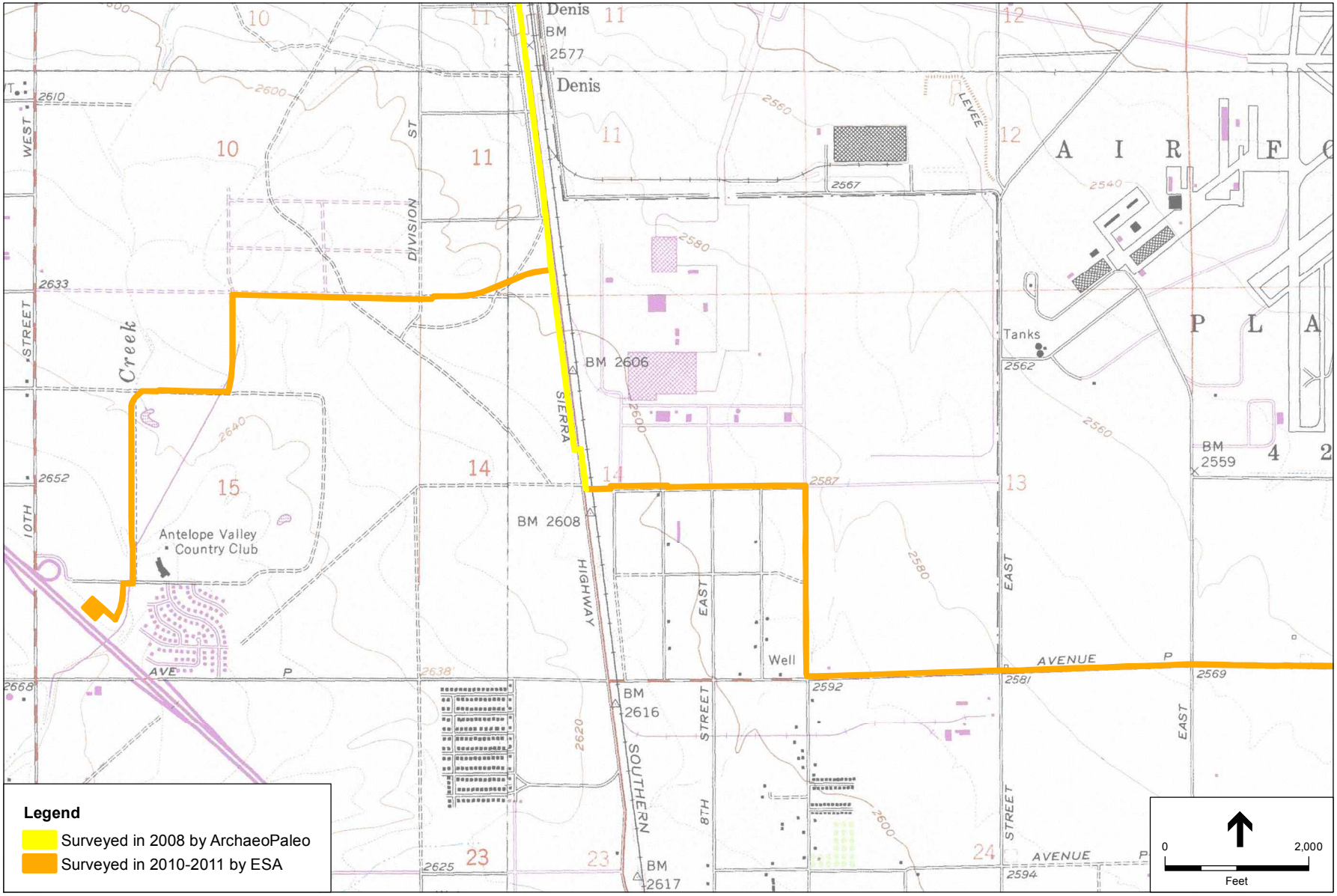
Figure 4-A

Areas Surveyed



SOURCE: USGS, 2011.

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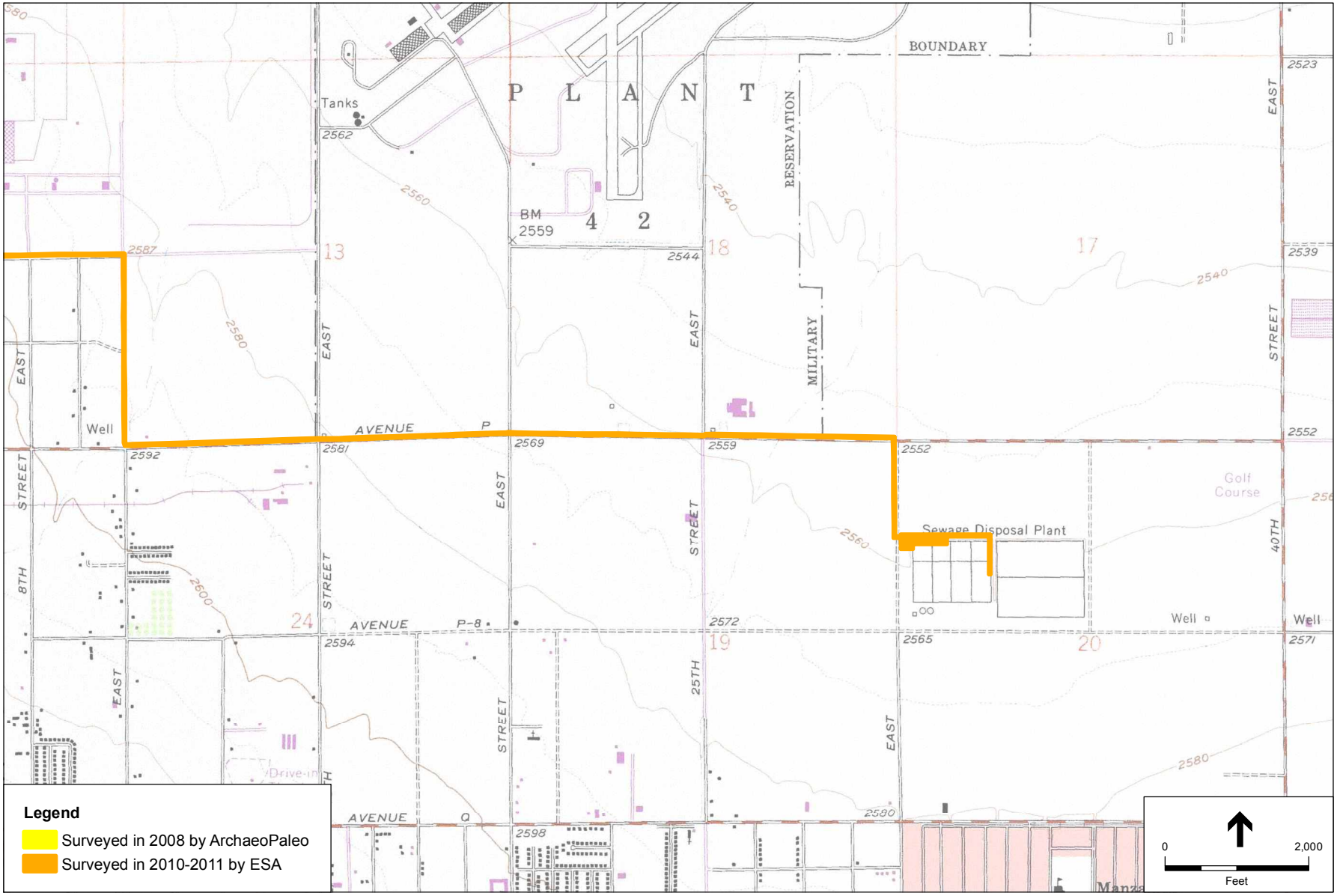
Figure 4-B

Areas Surveyed



SOURCE: USGS, 2011.

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Figure 4-C

Areas Surveyed

Proposed pipeline alignment along the north side of PWRP. View to the west.

Proposed tank location (background) and pipeline alignment (foreground). View to the south.

SOURCE: ESA, 2011.

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Figure 5
Site Photos

Proposed pipeline alignment along 10th Street East. View to the north.

Proposed pipeline alignment along Avenue O. View to the east.

SOURCE: ESA, 2011.

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Figure 6
Site Photos

Results

No cultural resources were recorded within the PWRP or proposed water tank location. A total of nine cultural resources (one built historic feature, seven historic-era archaeological sites, and one prehistoric isolate) were recorded during the survey of the pipeline survey area. Of these nine, three are previously recorded sites and six are newly recorded. However, since the time of the initial archaeological survey, the APE has been narrowed to a width of 20 feet. Because of this, of the nine resources recorded during archaeological survey, only four (P-19-180638, P-19-003505, WW4, and WW5) are located within or immediately adjacent to the current APE. These four resources consist of three historic-era archaeological resources and one historic built feature. Two are previously recorded resources and two are newly recorded. All resources were recorded on DPR forms as appropriate and submitted to the SCCIC; however, only those resources located within or adjacent to the current APE are described and evaluated below. DPRs for all resources may be found in Confidential Appendix C; a map of resources recorded during the survey of the pipeline survey area is located in Confidential Appendix D.

P-19-180638 (Southern Pacific Railroad)

This resource, located within the APE, is a segment of the Southern Pacific Railroad, recorded by Jones and Stokes in 1998 (O'Brien, 1998). It was recorded as a standard gauge track, still in use and maintained. The recorders noted that because of constant maintenance and track replacement the only remaining historic feature of the resource is its route; dates of "1995" are embossed on the track. The site was relocated on July 23, 2010, and found to be as originally recorded (Figure 7). The resource has not been evaluated for listing in the National Register or California Register. Although it is within the APE, the proposed pipeline would be installed beneath the tracks by the use of jack and bore construction methodology, and therefore would not be impacted by the Project. Because the resource is being avoided, it is not being formally evaluated for significance and will be considered eligible for the purposes of this Project.

P-19-003705 (Historic Period Trash Scatter)

This historic-era archaeological resource, located within the APE, consists of a trash scatter located along both the east and west sides of 10th St E. The resource had been previously recorded as being 140 feet wide and 1,200 feet long, The site was relocated on July 23, 2010, and found to be generally as originally recorded; however, the site boundaries were expanded on both sides of the road to be 450 feet wide (Figure 7). On both sides of 10th St. E there are 5-10 foot deep drainage channels, which effectively divide the site components from the paved roadway and road shoulders of 10th Street East. Hundreds of cans and glass fragments were observed, and most artifacts appear to date from the mid- to late- 20th century. On the west side of 10th Street East, the artifacts tend to be grouped in larger concentrations and can be dated to a later period (1970s-1980s).

Resource P-19-003705 does not appear to meet the criteria for listing in the California Register or National Register. This resource consists of a surface scatter of historic and modern trash, primarily containing non-diagnostic glass and metal elements. The distribution of artifacts within the site follows the roadway alignment and likely represents the surreptitious disposal of trash

Resource P-19-180638, Southern Pacific Railroad. View to the west.

Resource P-19-003505, overview. View to the east.

SOURCE: ESA, 2011.

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Figure 7
Site Photos

(i.e. littering) along the roadway. Historic maps do not indicate any formal trash dump or collection area in the vicinity of the resource. No features are associated with this resource and subsurface deposits are unlikely. While the resource can be broadly dated to the mid- to late- 20th century and is likely associated with human activity related to residential and agricultural activities in mid-20th century Palmdale, the resource is not known to be directly associated with events or people that have had a broad-reaching impact on the community at the local, state, or national level (Criteria A/1 and B/2). Furthermore, the site does not embody the characteristics of a distinctive type, period, or method of construction, or represent the work of a master (Criterion C/3). Finally, it does not appear to have the potential to yield information important to an understanding of the history of the local area, the state, or the nation (Criterion D/4). Therefore, the resource does not appear to be eligible for the California Register or National Register and lacks overall historical significance.

WW4 (Historic Period Foundations and Debris Scatter)

This resource, located immediately adjacent to the APE, is a mid-20th century archaeological site consisting of four features (Figure 8). The site measures approximately 240 feet by 230 feet.

Feature 1: This feature consists of a slab concrete foundation measuring 42 feet north-south by 28 feet east-west. The foundation is constructed from poured concrete within a chicken-wire frame. Three 1-inch pipes protrude from the center of the foundation. Red ceramic tiles, apparently affixed to the concrete with a black adhesive, still remain on approximately 30 percent of the foundation. The black adhesive is apparent where tiles are now missing.

Feature 2: This feature is a concentration of historic debris measuring about 40 by 40 feet. It is located just southwest of Feature 1. Constituents include wood fragments, one piece of brick and cement rubble, rubber shoe soles, 50+ cans, 10+ large fragments of clam and oyster shell, glass fragments (colorless, green, blue, opaque white), glass fragments with Coca-Cola and 7-UP ACL labels, whiteware fragments, a paintbrush, scraps of knitted cloth and carpet, plastic fragments, and fragments of a ceramic toilet.

Feature 3: This feature consists of the possible remains of a chicken coop. A pile of chicken wire and barbed wire, fallen wooden posts, a small ladder, a scatter of clamshell fragments, and a ceramic teacup were observed.

Feature 4: This feature is a barbed wire fence line. The fence consists of tall 2x4 wood posts, some still standing, and fallen chicken wire and barbed wire. The fence line surrounds Features 1, 2, and 3, and constitutes the western, southern, and southeastern boundaries of the site.

Apart from the features, a general sparse scatter of historic debris was observed. In the northeastern section of the site, some concrete and brick rubble was recorded. Other artifacts included oyster and clamshell fragments, wood, cans, fabric scraps, glass fragments, red ceramic tile fragments, pumice, brick, concrete, and plastic. This site appears to date to the mid-20th century. A small homestead is visible on aerials from 1959-1979, but not on a 1953 aerial (historicaerials.com, 2011). A structure is also marked at the location of the site on the 1958 Palmdale USGS 7.5' topographic quadrangle.

Resource WW4. Foundation feature is in background at upper left. View to the northeast.

Resource WW5. View to the south.

SOURCE: ESA, 2011.

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Figure 8
Site Photos

Resource WW4 does not appear to meet the criteria for listing in the California Register or National Register. This resource consists of the remains of a residential complex constructed between 1953-1959 and occupied until at least 1979. While the resource can be generally associated with residential and agricultural activities in mid-20th century Palmdale, the resource is not known to be directly associated with events or people that have had a broad-reaching impact on the community at the local, state, or national level (Criterion A/1 and B/2). No historic data regarding the complex or its occupants was found. Furthermore, the resource does not embody the characteristics of a distinctive type, period, or method of construction, or represent the work of a master (Criterion C/3). Finally, it does not appear to have the potential to yield information important to an understanding of the history of the local area, the state, or the nation (Criterion D/4). Therefore, the resource does not appear to be eligible for the California Register or National Register and lacks overall historical significance.

WW5 (Historic Period Foundations and Debris Scatter)

This historic-period archaeological resource, located immediately adjacent to the APE, consists of the burnt remains of a long, rectangular-shaped structure (Figure 8). The site measures approximately 310 feet by 75 feet, with the long axis oriented north/south. The southern end of the structure is less well preserved. Roughly in the middle of the west wall of the structure is a wood and earth feature consisting of wood planks arranged in a square, on top of a square-shaped mound of earth. The site is characterized by a sparse scatter of charcoal and burnt wood. Few artifacts were observed.

A structure, or the visible remains of a structure, at this site can be seen in aerials dating to 1959. A rectangular area equivalent to the footprint of the structure that has been cleared of vegetation is visible in a 1953 aerial photograph (the earliest available for review); however, this photograph is of poor resolution (historicaerials.com, 2011).

Resource WW5 does not appear to meet the criteria for listing in the California Register or National Register. This resource consists of the remains of a structure most likely constructed in the 1950s; however, although likely related to agriculture, its specific function is unknown. The resource is not known to be directly associated with events or people that have had a broad-reaching impact on the community at the local, state, or national level (Criteria A/1 and B/2). No historic data regarding the structure was found. Furthermore, the resource does not embody the characteristics of a distinctive type, period, or method of construction, or represent the work of a master (Criterion C/3). Finally, the underrepresentation of diagnostic artifacts limits the resource's potential to yield information important in history. It does not appear to have the potential to yield information important to an understanding of the history of the local area, the state, or the nation (Criterion D/4). Therefore, the resource does not appear to be eligible for the California Register or National Register and lacks overall historical significance.

Conclusions and Recommendations

Sensitivity of the APE for Cultural Resources

Of the 36 cultural resources recorded within ½ mile of the APE (including those resources newly recorded for this project), only three have prehistoric components: two resources are isolated prehistoric artifacts, and the third resource consists of a single prehistoric artifact within a historic-era archaeological site. Significant prehistoric archaeological resources in the vicinity of the Project tend to occur in close proximity to springs, watercourses, or other natural resources. The nearest significant watercourse to the APE would have been Amargosa Creek, which flowed north through the western portion of the APE. Amargosa Creek is now channelized and consists of a trapezoidal channel with soil-cement or rip-rap lining the banks and a soft soil bottom surrounded by paved roads. Excavation for pipeline installation would primarily occur in fill soil surrounding the channel.

The 1917 Elizabeth Lake, 1958 Palmdale, and 1965 Lancaster West USGS topographic quadrangles do not indicate any potential water sources within the eastern portion of the APE, other than a few ephemeral washes that cross the pipeline alignment. Aside from Amargosa Creek, the nearest permanent water source would most likely have been Barrel Springs or another spring located along the San Andreas Rift Zone, approximately 3-5 miles to the south.

Given the dearth of permanent water sources, it is unlikely that large, permanent prehistoric settlements would have occurred within the APE. Given the presence of the Southern Pacific Railroad, Sierra Highway, and other major transportation corridors that have been present since the late 19th and early 20th centuries, and given the large number of historic-era archaeological sites that have been recorded within and near the APE, the APE should be considered sensitive for historic-era resources. However, such resources would likely be similar to the resources that were recorded during the current Project: non-significant early to mid-20th century surface debris scatters. Such sites would be unlikely to contain a buried component.

Potential for Buried Prehistoric Archaeological Sites

The Antelope Valley floor is covered in thick deposits of Quaternary alluvial sediments. Dibblee (1963) subdivides the alluvium into two units: the older (Pleistocene) Quaternary sediments, and younger (Holocene) alluvial surface deposits. These alluvial sediments are derived from nearby granitic mountains and have been deposited on the valley floor over the course of thousands of years. The younger Quaternary valley alluvial deposits, composed of weathered soil material and poorly sorted clay, silt, and sand, may be up to several hundred feet thick in valley areas, and thinner on slopes at the valley margins. Geologic maps (Dibblee, 1960; Hernandez, 2009) show that the APE is underlain by late Pleistocene and Holocene alluvium. The precise thickness of the younger alluvial deposits within the APE is unknown.

In the Antelope Valley, the late Quaternary period was characterized by long periods of stable soil formation, punctuated by brief episodes of rapid alluvial deposition (Ponti, 1985). Because of this, buried soil horizons are common within the Antelope Valley.

Given that the APE has been covered with Holocene alluvial deposits, which have been deposited over the course of known human occupation in the region, there is a possibility that this deposition of alluvium has buried prehistoric archaeological sites that once existed on the surface. Therefore, although overall there is a low probability of significant resources existing within the APE, the possibility that buried archaeological deposits may be encountered during Project-related excavation cannot be discounted. A provision for the unanticipated discovery of archaeological resources or human remains is recommended.

Recommended Mitigation

In the event that previously unidentified archaeological or Native American resources are uncovered during Project implementation, all work should cease in the vicinity of the find until it can be evaluated by a qualified archaeologist. If the resource is found to be a historical or unique archaeological resource as defined in PRC Section 21084.1 and 21083.2(g), respectively, impacts to the resource shall be avoided during Project implementation. Consistent with Section 15126.4(b)(3), this may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement. If avoidance is not feasible, prior to issuing any grading or excavation permits and prior to any Project-related ground disturbing activities, a detailed treatment plan should be prepared and implemented by a qualified archaeologist in consultation with the County. Treatment of unique archaeological resources would follow the applicable requirements of Public Resources Code 21083.2. Treatment for most resources would consist of (but would not be not limited to) sample excavation, surface artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the significant resource to be impacted by the Project. The treatment plan should include provisions for analysis of data in a regional context, reporting of results within a timely manner, curation of artifacts and data at an approved facility, and dissemination of reports to local and State repositories, libraries, and interested professionals. Pre-construction worker training is also recommended, in order to familiarize workers with the types of cultural resources that could be encountered, and the procedures to be followed in the event of accidental discovery of cultural resources.

If human remains are uncovered during Project construction, the Project proponent should immediately halt work, contact the County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.4 (e)(1) of the *CEQA Guidelines*. If the County Coroner determines that the remains are Native American, the Project proponent shall contact the NAHC, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.

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APPENDIX A

Personnel Qualifications

MONICA STRAUSS, RPA

Manager, Southern California Cultural Resources Group

Monica Strauss is Manager of ESA's Southern California Cultural Resources Group and is based in the Los Angeles office. She has 15 years of experience in cultural resources management and has directed numerous archaeological investigations throughout Southern California and the Channel Islands. She directs prehistoric and historic field and research projects for public agencies and private developers and is proficient in CEQA and Section 106 compliance. She manages a staff of cultural resources specialists who conduct various types of cultural resources compliance including phase I surveys, construction monitoring, Native American consultation, archaeological testing and treatment, historic resource significance evaluations, and large-scale data recovery programs. Monica has prepared technical documents meeting the requirements of federal, State, and local agencies in support of CEQA and Section 106 as well as cultural resources components for General and Specific Plans.

Education

MA, Archaeology , California State University, Northridge

BA, Anthropology, California State University, Northridge

AA, Humanities, Los Angeles Pierce College

Years of Experience: 15

Professional Affiliations

Register of Professional Archaeologists (RPA)

Society for California Archaeology (SCA)

Society for American Archaeology (SAA)

Specialized Experience

Treatment of Historic and Prehistoric Human Remains

Archaeological Monitoring

Complex Shell Midden Sites

Groundstone Analysis

Qualifications

Exceeds Secretary of Interior Standards

CA State BLM Permitted

Certified in CA BLM Protocol

Relevant Experience

Helix Water District (HWD)-El Monte Valley, San Diego County, CA. ***Principal Investigator***. ESA is providing professional Environmental Consulting services in support of the HWD's El Monte Mining, Reclamation, and Groundwater Recharge Project. The project includes mining of approximately 10 million tons of aggregate from the El Monte Valley in San Diego County. Monica is currently directing the cultural resources component of this project to insure it complies with CEQA, Section 106 and the County of San Diego, Guidelines for Determining Significance. Duties involve providing oversight to the managements team and coordination with the client on key issues including Section 106 requirements and Native American issues.

Metropolitan Air Park, San Diego, CA. ***Principal Investigator*****.** ESA is preparing a master development plan, EIR, and EA for Metropolitan Air Park at Brown Field Airport in the City of San Diego. The project involves a 50-year land lease from the City of San Diego for a 400-acre portion of the airport property to be developed into airport and non-airport related land uses. The project requires the approval of the City of San Diego and the Federal Aviation Administration, and is being processed as Master Planned Development Permit Project. Monica is currently directing the cultural resource component of this project. Her duties involve coordination with the City of San Diego to ensure compliance with the City of San Diego Historical Resources Guidelines and oversight of survey and identification methods and resource evaluations.

Ocotillo Wind Farm Project EIR. Imperial County, CA. ***Project Director.*** ESA has been retained by the Bureau of Land Management under an on-call contract to provide cultural resource services including compliance monitoring for projects under BLM jurisdiction. Monica is specially trained in BLM protocols and procedures. She is currently assisting BLM (El Centro Field Office) staff with general oversight of the 15,000-acre cultural resources study

being carried out for the Ocotillo Wind Farm project. Monica has conducted peer-review of cultural resources documents to ensure conformance with BLM requirements and is providing oversight to survey staff who are conducting compliance monitoring of the survey effort.

Central Los Angeles High School #9, *Los Angeles, CA. Project Director.* This project involves the construction of LAUSD Central High School #9, a new performing arts high school, in downtown Los Angeles. Monica led a team of archaeological staff of ten who over a 2-year period conducted monitoring and data recovery of archaeological materials in connection with the 19th century Los Angeles City Cemetery in downtown Los Angeles. She coordinated with the Los Angeles County Coroner and office of Vital Statistics to obtain disinterment permits and developed a mitigation plan incorporating components related to the future disposition of remains, artifact curation, and commemoration. She directed an extensive historical research effort to identify the human remains, and at the request of the client, participated in public outreach and coordination with media.

Bureau of Land Management Abandoned Mine Lands Archaeological Inventory, Lakeside, San Diego County, CA. *Project Director*.
The BLM is proposing to close or remediate abandoned mines that pose a safety hazard. ESA prepared archaeological inventory reports documenting the abandoned mines, in compliance with Section 106 of the NHPA. Monica directed cultural resources staff in the survey, research, and evaluation of mining features identified in the areas proposed for remediation.

Bureau of Land Management On-Call Cultural Resources Services. Riverside County, CA. *Project Director.* ESA has been retained by the Bureau of Land Management under an on-call contract to provide cultural resource services including compliance monitoring for projects under BLM jurisdiction. Monica is currently managing a number of projects for the BLM (Palm Springs South Coast Field Office) providing a wide range of cultural resources services for solar projects and other projects taking place on BLM lands in compliance with Section 106 and specified BLM protocols. Services that she and her staff provide under this contract include compliance monitoring and peer review, Phase 1 archaeological resources surveys, resource evaluations, the preparation of reports, and Native American consultation.

West Kern Water District Groundwater Recharge Project EIR. Kern County, CA. *Cultural Resources Project Director.* Monica managed a Phase 1 archaeological resources survey of a 500-acre Project area proposed for groundwater recharge basins and a 9-mile pipeline in Kern County. The Project was carried out in compliance with CEQA and Section 106 of the NHPA. The survey resulted in the identification of over 20 archaeological sites. She managed the preparation of a Phase 1 Archaeological Resources Survey Report and Cultural Resources EIR Section that addressed the potential for site eligibility and provided an impacts analysis and mitigation measures.

Selected Reports (Continued)

Canyon Hill Cultural Resources Assessment. Lake Elsinore, CA. *Principal Investigator.* Monica directed Phase II Testing Program to determine California Register and National Register eligibility of prehistoric archaeological site. She co-authored Phase II Testing Research Design and Phase II Testing Evaluation Report. ESA is preparing a cultural resource assessment for Phases 7 & 8 of the Canyon Hills Specific plan.

California Department of Water Resources On-Call Environmental Planning Services. East Branch Enlargement EIR. Antelope Valley, CA. *Cultural Resources Project Manager.* Monica managed a Phase 1 archaeological resources survey for the enlargement of 100 miles of the California Aqueduct from the Tehachapi split through the Antelope Valley and Mojave River Basin to Silverwood Reservoir. The Project was carried out in compliance with CEQA and Section 106 of the NHPA. Monica managed the survey, report effort, and preparation of the EIR section that considered Project impacts to historic architectural and archaeological resources.

Prior to ESA

Hellman Ranch Archaeological Resources Monitoring and Data Recovery Project. Seal Beach, CA. *Field Director.* John Laing Homes constructed the Heron Point housing development in Seal Beach. Monica directed a large-scale excavation and monitoring program under the terms of a Mitigation Plan approved by the California Coastal Commission. She coordinated the daily excavation and monitoring activities of over twenty archaeological field personnel over a period of two years. She worked closely with a staff of eight Native American monitors and assisted in the preparation of remains artifacts for reburial. She also oversaw identification and cataloging activities that took place simultaneously on the job site in a field laboratory. On-site activities included hand excavation at four archaeological sites, construction monitoring, wet and dry-screening, and laboratory analysis, and also involved the evaluation of complex shell midden deposits and appropriate treatment of human remains.

San Clemente Island Section 106 Archaeological Testing and Evaluation Program. Los Angeles, CA. *Project Director.* Working for the U.S. Navy, Southwest Division, Monica directed a team of archaeologists who conducted testing of nine prehistoric archaeological sites on the northern end of San Clemente Island. Testing was conducted in accordance with guidelines set forth by the U.S. Navy and in compliance with Section 106. She authored a comprehensive technical report which considered the results of the testing program in relation to current California coast and San Clemente Island research questions and evaluated the sites for eligibility for the National Register.

State Route 90 Connector Road and the Admiralty Way Widening Archaeological Resources Phase 1 Projects. Marina del Rey, *CA. Project*

Director. Monica directed a Phase 1 Cultural Resources Study for the County of Los Angeles, Department of Public Works in compliance with Section 106. Monica worked closely with Caltrans archaeologists and Native American representatives to reach agreement over the impacts and the appropriate treatment of a significant archaeological site located in the project APE.

South Region Elementary School #1 Archaeological/Paleontological Monitoring Project, *Los Angeles, CA. Project Director.* Monica directed archaeological/paleontological monitoring conducted during school site construction for LAUSD. She managed archaeological/paleontological monitors, conducted client coordination, and responded to and evaluated discoveries including two early 20th century residential refuse deposits. She provided oversight to staff conducting artifact analysis and the preparation of an Archaeological Monitoring report documenting and evaluating the recovered materials.

Alameda Street Improvement Archaeological Monitoring and Assessment Project, *Los Angeles CA. Project Director.* Monica directed archaeological monitoring conducted during the construction of roadway improvements in downtown Los Angeles. She responded to the discovery of historic resources including the *Zanja Madre* and the historic brick Alameda Street. She developed mitigation recommendations to address impacts to these resources from the project including an adaptive re-use of the recovered brick materials in the landscape design of the project. Monica provided oversight to laboratory analysts who catalogued the artifact collection.

Metro Universal Phase 1 Archaeological Resources Project, *North Hollywood, CA. Project Director.* Working as a consultant for Thomas Properties Group, Monica directed archaeological resources assessment for the proposed Metro Universal project to be constructed adjacent the historic *Campo de Cahuenga* in North Hollywood. She conducted extensive literature review and archaeological survey and prepared and archaeological technical report and EIR section. Working with project engineers, she developed a scaled approach to identify varying degrees of cultural resources sensitivity across the project site and determined appropriate mitigation measures. She worked with engineers and landscape designers to inform the design to best enhance existing cultural resources. Monica attended monthly meetings with the *Campo de Cahuenga* Board of Representatives and the Thomas Properties team to address cultural resources concerns.

First Street Trunk Line Archaeological Monitoring and Assessment Project, *Los Angeles CA. Project Director.* As a consultant to the City of Los Angeles, Department of Water and Power, Monica directed archaeological and paleontological monitoring of utilities installations ona continuous basis for over one year. She responded to monitoring discoveries including historic-period utility pipes and determined the appropriate mitigation in the form of recordation.

Selected Reports (Continued)

Main Street Archaeological/Paleontological Monitoring and Assessment, *Los Angeles, CA. Project Director.* Working for the City of Los Angeles, Bureau of Engineering, Monica directed archaeological/paleontological monitoring during the construction of a police parking facility in downtown Los Angeles. She managed monitors and conducted client coordination. She responded to discoveries of over a dozen in tact historic building basements and other refuse deposits to determine appropriate treatment. She provided oversight to specialists conducting analysis of the artifacts recovered and managed the preparation of a report that documented the findings and evaluated the resources.

Olive View Medical Center Emergency Services Expansion Monitoring and Assessment Project, *Los Angeles, CA. Project Director.* Working for the City of Los Angeles, Department of Public Works, Monica directed archaeological monitoring and a Phase I cultural resources assessment in support of an EIR for medical center expansion in Sylmar. Two historic resources were identified and determined not significant under CEQA. Monica responded to a discoveries made by construction personnel and determined prehistoric artifacts were present in native soil within the project area.

Temple Street Widening Archaeological Monitoring and Assessment Project, *Los Angeles, CA. Project Director.* Working for the City of Los Angeles, Department of Public Works, Monica directed archaeological monitoring conducted during the widening of Temple Street in downtown Los Angeles. She conducted extensive coordination with general and sub contractors and responded to discoveries including and segment of the zanja irrigation ditch and a large historic refuse deposit to determine appropriate treatment. She developed mitigation and monitored the implementation of mitigation for the zanja including concrete capping and the installation of an interpretive plaque.

Exposition Corridor Transit Project – Phase 2 Phase 1 Archaeological Assessment Project, *Los Angeles CA. Project Director.* Working for DMJM Harris, Monica directed archaeological, historic architectural, and paleontological resources assessment in compliance with CEQA and Section 106 regulations. Project involved archaeological, paleontological, and historic architectural survey of 6- mile alignment, production of APE maps, consultation with SHPO and the preparation of technical reports and EIR sections.

Van Norman Chloramination Station Archaeological/Paleontological Monitoring Project, *San Fernando CA. Project Director.* Working for the City of Los Angeles, Department of Water and Power, Monica directed archaeological/paleontological and Native American monitoring during project construction. Resources identified during monitoring were assessed for significance under CEQA.

Lang Ranch Community Park Phase 1 Archaeological Testing and Assessment Project, *Thousand Oaks, CA. Project Director.* Working for the

Conejo Park and Recreation District, Monica directed a Phase I archaeological survey of the 46-acre project area. Project work involved the archaeological testing at two artifact isolate locations to determine presence of sub-surface deposits and coordination with Native American representatives. Monica prepared an Archaeological Resources Technical Report and EIR section with findings and recommendations for further work, pursuant to CEQA requirements.

Woodland Duck Farm Phase 1 Cultural Resources Assessment Project, *Avocado Heights, CA. Project Director.* As a consultant to the San Gabriel & Lower Los Angeles Rivers and Mountains Conservancy, Monica directed a Phase I cultural resources evaluation of the historic-era Woodland Duck Farm property. She cnducted a California Register eligibility assessment for several duck farm buildings and archaeological features identified as a result of the survey. Monica directed extensive background research concerning the history of the duck farm and poultry farming in general and prepared a Cultural Resources Technical Report and MND section with findings and recommendations for further work, pursuant to CEQA requirements.

San Clemente Island Section 106 Archaeological Resources Testing and Evaluation Project, Los Angeles County, *CA. Project Director* Working for the U.S. Navy, Southwest Division, Monica designed a research strategy and directed a testing program in strict accordance with guidelines set forth by the U.S. Navy and in compliance with Section 106. She authored a comprehensive technical report which considers the results of the testing program in relation to current California coast and San Clemente Island research questions and evaluates the sites for eligibility for the National Register.

San Gabriel River Discovery Center at Whittier Narrows Phase 1 Cultural resources Assessment Project, *Los Angeles County, CA. Project Director.* CLIENT: City of Los Angeles, Department of Public Works. Directed a Phase I cultural resources evaluation of the historic-era Discivery Center. Conducted a National Register and California Register eligibility assessment for several historic-era buildings identified as a result of the survey. Conducted background research concerning the history of the duck farm and poultry farming in general including consultation with local Native American representatives. Prepared a Cultural Resources Technical Report with findings and recommendations for further work, pursuant to NEPA and CEQA requirements.

Hellman Ranch Monitoring Project*, Orange County, CA. Archaeological Monitor.* Working for John Laing Homes, Monica conducted archaeological monitoring during the initial rough grade phases of construction at Hellman Ranch. She coordinated with a team of monitors and Native American representatives. She worked with equipment operators according to predetermined monitoring protocols

Selected Reports (Continued)

Home Depot Monitoring and Assessment Project – Lake Elsinore, *Riverside County, CA. Project Director.* As a consultant to Twining Laboratories, Monica directed archaeological monitoring of Caltrans road-widening in the vicinity of a historic cemetery and coordinated her findings with Caltrans.

Public Safety Facilities Master Plan Phase 1 Archaeological Resources Evaluation Project, *Los Angeles County, CA. Project Director.* Working for the City of Los Angeles, Department of Public Works, Monica directed a Phase I archaeological resources evaluation of an approximately five-square block area in downtown Los Angeles. Project work involved an extensive investigation of the area during the cities' early pueblo years and specifically the Zanja Madre irrigation system. Monica prepared a technical report with findings and recommendations for further work, pursuant to CEQA requirements.

Ivy Street Bridge Phase 1 and Extended Phase 1 Archaeological Resources Testing and Evaluation Project, *Murrieta, CA. Project Director.* Working for T.Y. Lin and the City of Murrieta on a project that proposed to construct a bridge over Murietta Creek, Monica directed an Extended Phase I Testing Program in compliance with Section 106 review. She coordinated with Caltrans to meet Section 106 compliance and evaluated project effects on a nearby ethnohistoric Native American site. Monica coordinated extensively with Native American representatives and developed appropriate mitigation to be carried out prior to and during construction.

Lake Hodges Archaeological Resources Evaluation Project, *San Diego County, CA. Research Assistant.* Working for the San Diego County Water Authority, Monica conducted laboratory analysis of the groundstone tool collection recovered as a result of testing at a number of sites near Lake Hodges. She prepared a report that documented the findings of her analysis.

Haiwee Dam Phase 1 Archaeological Resources Evaluation Project, *Lone Pine, CA. Field Archaeologist.* Working for the City of Los Angeles, Department of Water and Power, Monica participated in archaeological field survey involving the identification and recording of prehistoric and historic archaeological sites and structures in preparation for the construction of a new dam.

Arroyo Seco Bike Path Phase 1 Cultural Resources Evaluation Project, *Los Angeles, CA. Project Director.* Working for the County of Los Angeles, Department of Public Works in connection with a project to make improvements to the Arroyo Seco Channel, Monica managed all aspects of Section 106 review in accordance with Caltrans Cultural Resources Environmental guidelines. Orchestrated the research strategy, directed the field teams, and prepared cultural resources assessment documentation for approval by Caltrans and FHWA and cultural resources section for Mitigated Negative Declaration.

Professional Papers

Strauss, M. 2000. Trans-Holocene Use of Milling Tools in a Maritime Environment, Eel Point, San Clemente Island. Oral Presentation at the Society for California Archaeology (SCA) Meeting, Riverside, California, April.

Strauss, M. and S. Dietler 2006. Bones, Beads and Bowls: Variation In Habitation And Ritual Contexts At Landing Hill. Oral Presentation at the Society for California Archaeology (SCA) Meeting, Ventura, California, April.

Strauss, M., S. Dietler, and C. Ehringer. 2008. Death Lends a Hand: Archaeological Excavations of Los Angeles's City Cemetery. Oral paper presentation at the Society for Historical Archaeology Annual Meeting, Albuquerque, NM.

Ehringer, C., L. Kry, S. Dietler, and M. Strauss. 2008. After the Bones Are Gone: The Role Of Personal Effects in Identifying Unmarked Historic Burials. Poster presentation at the Society for Historical Archaeology Annual Meeting, Albuquerque, NM.

Strauss, M. 2008. Unearthing City Cemetery: Archaeological Excavations at Los Angeles' First City-Operated Burial ground (1863-1890). Oral Presentation at the Society for American Archaeology (SAA) Meeting, Vancouver, Canada, March.

Strauss, M. 2008. Unearthing City Cemetery: Archaeological Excavations at Los Angeles' First City-Operated Burial ground (1863-1890). Oral Presentation at the Society for California Archaeology Meeting, Burbank, California, April.

Martinez, J. and M. Strauss. 2008. Reconstructing the Past with GIS technology: Los Angeles' City Cemetery. Oral Presentation at the Society for California Archaeology Meeting, Burbank, California, April.

Selected Reports

Central Los Angeles High School #9 Archaeological Excavation Report (in progress) (contributing author). Prepared for Los Angeles Unified School District. EDAW, Inc. (anticipated 2008).

Archaeological Resources Assessment for the Alameda Street Improvement Project (in progress). Prepared for City of Los Angeles, Department of Public Works. EDAW, Inc. (2008)

Archaeological Resources Assessment for the MTA Universal Project (with S. Dietler). Prepared for Thomas Properties Group. EDAW, Inc. (2008).
Exposition Corridor Transit Project Phase 2 Archaeological Survey Report EDAW, Inc. (2008).

Selected Reports (Continued)

Exposition Corridor Transit Project Phase 2 Archaeological Survey Report (with C. Ehringer). Prepared for Exposition Rail Transportation Authority. EDAW, Inc. (2008).

Archaeological Evaluation for the South Region Elementary School #1 Project (Demolition Phase of Construction), City of Los Angeles, California (with C. Ehringer). Prepared for Los Angeles Unified School District. EDAW, Inc. (2008).

Archaeological Resources Assessment and Evaluation of "Maintenance of Way" Building for the Asphalt Plant No. 1 Street Services Truck Route Project, City of Los Angeles, California (with C. Ehringer and A. Tomes). Prepared for City of Los Angeles, Bureau of Engineering. EDAW, Inc. (2008)

Cultural Resources Assessment for the Proposed Formosa Specific Plan at Santa Monica Boulevard, West Hollywood, CA (with A. Tomes and M. Strauss). Prepared for City of West Hollywood Community Development Department. EDAW, Inc. (2007).

Archaeological Evaluation Proposal (Phase II) of the Admiralty Site (CALAN047) for the State Route 90 Connector Road and the Admiralty Way Widening Projects, Marina del Rey, County of Los Angeles, CA (with J. Dietler and S. Dietler). Prepared for Caltrans District 7. EDAW, Inc. (2007).

Cultural Resources Assessment for the Proposed San Gabriel River Discovery Center at Whittier Narrows, Los Angeles County, CA (with A. Tomes and J. Dietler). Prepared for Los Angeles County Department of Public Works (2007).

Cultural Resources Assessment for the Woodland Duck Farm Project, Avocado Heights, Los Angeles County, CA (with A. Tomes and S. Dietler). Prepared for San Gabriel River & Lower Los Angeles Rivers and Mountains Conservancy (2007).

Archaeological Resources Assessment for the Olive View Medical Center Emergency Services Expansion, City of Los Angeles, CA. Prepared for Los Angeles County Department of Public Works (2006).

Archaeological Resources Assessment and Phase II Testing Program for the Proposed Lang Ranch Community Park Project, Thousand Oaks, CA. Prepared for Conejo Recreation and Park District (2006).

Archaeological Resources Assessment for the Proposed Public Safety Facilities Master Plan Project, City of Los Angeles, CA. Prepared for City of Los Angeles, Department of Public Works (2004).

An Archaeological Evaluation of Four Sites in the Quarry and Ridge Road Vicinities, San Clemente Island, California. Prepared for Southwest Division, Naval Facilities Engineering Command, NRO. (2004).

Cultural Resources Assessment for the Proposed Lakewood Boulevard Improvement Project, City of Downey, CA (with A. Tomes). Prepared for City of Downey. EDAW, Inc. (2003).

Proposal for Extended Phase I Testing of CA-RIV-1085 and CA-RIV-1086 for the Proposed Ivy Street Bridge Project, City of Murrieta, CA. Prepared for Caltrans District 8. EDAW, Inc. (2003).

Historic Property Survey Report: Sepulveda Boulevard Tunnel at Mulholland Drive in Connection with the Proposed Sepulveda Boulevard Reversible Lane and Bike Lanes Project, City of Los Angeles, CA (with A. Tomes). Prepared for City of Los Angeles. EDAW, Inc. (2003).

Historical Architectural Evaluation of the Sepulveda Boulevard Tunnel at Mulholland Drive in Connection with the Proposed Sepulveda Boulevard Reversible Lane and Bike Lanes Project, City of Los Angeles, CA (with A. Tomes). Prepared for City of Los Angeles. EDAW, Inc. (2003).

Cultural Resources Assessment for the Proposed Lakewood Boulevard Improvement Project, City of Downey, CA (with A. Tomes). Prepared for City of Downey. EDAW, Inc. (2003).

Lake Hodges: Milling Tool Analysis. San Diego County, CA (with R. Apple). Prepared for San Diego County Water Authority. EDAW, Inc. (2003).

Historical Architectural Survey and Evaluation for the Proposal Mid-City New Police Station Project, City of Los Angeles, CA (with C. Dolan). Prepared for City of Los Angeles. EDAW, Inc. (2003).

Historical Resources Evaluations Report for the Proposed Del Amo Boulevard Extension Project, City of Torrance, CA (with C. Dolan). Prepared for City of Torrance. EDAW, Inc. (2003).

Historical Resources Evaluation Report for the Proposed Arroyo Seco Bike Path Project, County of Los Angeles (with C. Dolan). Prepared for County of Los Angeles. EDAW, Inc. (2003).

Malibu Creek State Park General Plan, City of Calabasas, CA (with E. Wilson). Prepared for California Department of Parks and Recreation. EDAW, Inc. (2003).

Archaeological Survey for the Proposed Vermont Avenue Relief Sewer, City of Los Angeles, CA. Prepared for City of Los Angeles. EDAW, Inc. (2003).

Selected Reports (Continued)

Montrose Settlements Restoration Project: Preliminary Planning Report. (with K. Myers) Prepared for the National Oceanic and Atmospheric Administration. EDAW, Inc. (2003).

Taylor Yard State Park General Plan, Los Angeles, CA (with E. Wilson). Prepared of California State Parks and Recreation. EDAW, Inc. (2003).

Public Outreach and Education

2008. Public Outreach speaker at Chinese Historical Society meeting. Project: Central Los Angeles High School #9. Client: Los Angeles Unified School District.

2006. Guest lecturer at Laurel Hall Elementary and Middle School regarding archaeology in southern California, North Hollywood, CA.

2003. Volunteer lecturer and field advisor at San Clemente Island Field School.

2003. Key speaker at Seal Beach Historical Society community outreach meeting regarding findings from the Hellman Ranch Archaeological Sites, Seal Beach, CA.

2002. Guest lecturer at Rosemead Elementary School regarding career opportunities in cultural resources management, Rosemead, CA.

1998–2000. Appointment at California State University, Northridge, Anthropology Department. Directed undergraduate peer student advisement center, counseled students regarding course selection graduation reparation, and employment opportunities.

Relevant Experience (Continued)

Taylor Yard State Park General Plan, Los Angeles, CA (with E. Wilson). Prepared of California State Parks and Recreation. EDAW, Inc. (2003).

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2003. Volunteer lecturer and field advisor at San Clemente Island Field School.

2003. Key speaker at Seal Beach Historical Society community outreach meeting regarding findings from the Hellman Ranch Archaeological Sites, Seal Beach, CA.

2002. Guest lecturer at Rosemead Elementary School regarding career opportunities in cultural resources management, Rosemead, CA.

1998–2000. Appointment at California State University, Northridge, Anthropology Department. Directed undergraduate peer student advisement center, counseled students regarding course selection graduation reparation, and employment opportunities.

MADELEINE BRAY

Archaeologist

Madeleine Bray is an archaeologist and cultural resources project manager with 10 years of survey, excavation and mapping experience related to historically significant sites. She has managed numerous projects in California in compliance with CEQA and with Section 106 of the National Historic Preservation Act, including Phase I surveys, site significance testing and evaluation, mitigation recommendations, and archaeological construction monitoring. She has worked extensively throughout southern California, with particular experience in the context of the Mojave and California deserts, historic mining sites, and historic artifacts. She is currently involved in several fieldwork efforts in Los Angeles County. Internationally, she has participated in the excavation of a Roman temple in Omrit, Israel, and in the pedestrian and geophysical survey of Sikyon, an important urban site in Greece.

Education

M.A., Archaeology, University of California, Los Angeles

B.A., Classical Archaeology, Macalester College, Saint Paul, Minnesota

Years Experience: 10

Professional Affiliations

Society for American Archaeology

Register of Professional Archaeologists

Qualifications

Meets Secretary of the Interior's Standards

Riverside County certified

CA State BLM Permitted

Certified in CA BLM Protocol

Continuing Education

ACHP Section 106 Basics seminar

Riverside County certification course, 2007 and 2009

Relevant Experience

Bureau of Land Management On-Call Cultural Resources Services. Riverside County, CA. ***Archaeologist.*** ESA has been retained by the Bureau of Land Management under an on-call contract to provide cultural resource services including compliance monitoring for projects under BLM jurisdiction. Madeleine has participated in a number of projects for the BLM (Palm Springs South Coast Field Office) providing a wide range of cultural resources services for solar projects and other projects taking place on BLM lands in compliance with Section 106 and specified BLM protocols, including compliance monitoring and peer review, Phase 1 archaeological resources surveys, resource evaluations, the preparation of reports, and Native American consultation.

Sweetwater Reservoir Water Main Replacement. San Diego County, CA. ***Cultural Resources Project Manager.*** ESA was retained by Sweetwater Authority to prepare an IS/MND for the replacement of a 36-inch pipeline leading from Sweetwater Dam. Sweetwater Dam is a National Register-eligible structure that was originally constructed in the late 19th century and was subject to upgrades in 1917. Madeleine conducted a Phase 1 Cultural Resources Assessment including archival research, pedestrian, survey, historical research, Native American outreach, and the preparation of a technical report documenting archaeological and historic-architectural resources that might be impacted by the project. The study concluded that features that would be altered by the project that were contributing elements to the historic dam would need to be replaced in kind.

Bureau of Land Management Abandoned Mine Land Archaeological Inventories, San Diego County, Kern County, San Bernardino County, and Riverside County, CA. ***Cultural Resources Project Manager.*** ESA has been retained to provide cultural resources services to the BLM in connection with the Abandoned Mine Lands program. The BLM proposes to conduct remediation of physical safety hazards associated with Abandoned Mine Lands.

Relevant Experience (Continued)

Remediation would consist of backfilling or closing off mine shafts, adits, and prospects. ESA prepared archaeological inventory reports documenting the abandoned mines, in compliance with Section 106 of the NHPA. Madeleine performed archival and historic research, coordinated with the BLM, led a team of surveyors in the documentation of over 100 mining features, and authored reports summarizing the documentation and providing significance and treatment recommendations.

Cadiz Groundwater Project, San Bernardino County, CA. ***Archaeologist.*** ESA was retained by Cadiz Land Company, Inc. to prepare an EIR in connection with a water supply project in Cadiz Valley of the Mojave Desert. Madeleine led a Phase 1 archaeological resources assessment including literature review, 42-mile long pedestrian survey, and Native American outreach to meet CEQA compliance requirements. An Archaeological Resources Technical Report was prepared that evaluated the California Register eligibility of over 40 historic-period archaeological sites that had been identified as a result of the investigation. The results of the technical report were incorporated into the EIR which included an impacts analysis and appropriate mitigation measures.

Sacramento County Airport Systems Archaeological Monitoring, Sacramento, CA. ***Archaeological Monitor.*** ESA is providing on-call natural resources support and consulting services for the Sacramento County Airport System. Madeleine served as an archaeological monitor for the Sacramento County Airport Systems prior to routine disking at the Sacramento International Airport. Tasks included monitoring of disking activities and survey of the project area concurrent with or immediately following disking, documentation of the project including a daily monitoring log and photographs, analysis of cultural materials found during the course of construction, and the preparation of a final monitoring report.

Department of Water Resources, East Branch Enlargement EIR. Antelope Valley, CA. ***Cultural Resources Project Manager.*** Madeleine coordinated the preparation of cultural resources technical studies for the EBE project, which will involve the enlargement of 100 miles of the California Aqueduct from the Tehachapi split through the Antelope Valley and Mojave River Basin to Silverwood Reservoir. Madeleine analyzed and summarized records search results, which resulted in identification of 130 cultural resources near the project area. She drafted a survey strategy for DWR approval, coordinated with DWR, and completed archaeological field survey of the 98-mile project area. She preparing the draft survey report and completed site records for the more than 100 cultural resources identified during survey. The Project is being carried out in compliance with CEQA and Section 106 of the NHPA. Impacts and mitigation measures will be addressed in the Cultural Resources section of the Project EIR. ESA has conducted technical studies to complete the EIR and has begun negotiating permit requirements and restoration planning with resource agencies including the USACE, RWQCB, and USFWS.

Relevant Experience (Continued)

Additional Experience

Cotsen Institute of Archaeology, University of California, Los Angeles. ***Publications Assistant***. Madeleine assisted in editing manuscripts for publication, maintained databases and inventory of published material, and processed orders and assisted customers.

Kenchreai Cemetery Project, Kenchreai, Greece. ***Crew Member***. Madeleine assisted the survey a Roman-era cemetery near Corinth, Greece. The site consisted of 55+ tombs which she helped survey, map, photograph, and create scale drawings. Additionally, she inventoried and documented ceramic artifacts.

Macalester College Excavations, Omrit, Israel. ***Crew Member and Registrar***. Madeleine participated in two sessions of the excavation of a Roman temple in Northern Israel. She helped excavate three separate trenches, and collaborated with excavation leaders to map, organize, document, inventory, and create a database of artifacts and architectural fragments.

Pioneer Memorial Cemetery Geophysical Survey, Sylmar, California. ***Crew Member***. Madeleine surveyed a 19th and 20th century A.D. historical site using magnetic & electromagnetic methods, resistivity, and Ground Penetrating Radar. She analyzed the results of the surveys and prepared a report on her findings.

Science Museum of Minnesota, Saint Paul, Minnesota. ***Archaeology Intern*.** As part of an independent project, Madeleine assisted the Science Museum of Minnesota in researching and cataloguing a small collection of Greek and Roman ceramic lamps that had never been identified by place or period of origin. Ultimately, Madeleine created a catalog of the lamps and prepared the data for entry into the museum's database for record and eventual publication.

Sikyon Survey Project, Sikyon, Greece. ***Crew Member***. Madeleine participated in a collaborative, multi-national geophysical survey of a large Greek and Roman period urban site as part of a multidisciplinary study. She conducted a both geophysical and pedestrian archeological surveys of the site using a Geoscan FM36 Fluxgate gradiometer. Madeleine was also responsible for sorting, documenting, and cataloguing ceramic artifacts which she analyzed to help create a ceramic typology for the site.

Statistical Research, Inc., Playa Vista, CA. ***Field and Laboratory Technician*.** Madeleine assisted an ongoing field curation project at the proposed construction site of an office complex in Playa Vista. Madeleine documented trenches through scale drawings and photographs of the project site. She also assisted in cataloguing of sorted materials and artifacts for future curation.

Relevant Experience (Continued)

University of California, Los Angeles. ***Research Assistant.*** Assisted Professor Richard Lesure in digitizing archaeological drawings for publication. Used Abode Illustrator to trace and refine hand drawn site illustrations.

University of California, Los Angeles. ***Teaching Assistant.*** Madeleine worked as a teaching assistant for three Classics courses. She taught two 50-student sections per course, graded papers, and administered exams.

APPENDIX B

Native American Contact

626 Wilshire Boulevard
Suite 1100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

July 1, 2010

Dave Singleton, Program Analyst
Native American Heritage Commission
915 Capitol Mall, Room 364
Sacramento, CA 95814
FAX- 916-657-5390

Subject: SLF search for the LACWWD40 Regional Recycled Water Project

Dear Mr. Singleton:

ESA is conducting environmental studies for the LACWWD40 Regional Recycled Water Project, Phase 2, located in Palmdale, County of Los Angeles. Phase 2 involves the construction of recycled water conveyance pipelines, one forebay tank, one pump station, and the conversion of two existing storage tanks from potable to recycled water use. Pipelines would be constructed within the public right-of-way of city streets, including Avenue P, 30th Street East, 10th Street East, Avenue O, Avenue M, the Sierra Highway, and within the Amargosa Creek channel. The proposed forebay tank and pump station would be located onsite at the Palmdale Water Reclamation Plant (PWRP). The project is located on the West Lancaster, East Lancaster, Palmdale and Ritter Ridge USGS 7.5' Quad (See attached maps).

Township Range: T6N, R12W, Sections 1, 2, 10, 11, 13, 14, 15; T 6N, R11W, Sections 18, 19, 20.

In an effort to provide an adequate appraisal of all potential impacts to cultural resources that may result from the proposed project, ESA is requesting that a records search be conducted for sacred lands or traditional cultural properties that may exist within the project area.

We additionally request the names and contact information for Native American representatives who are associated with the project area so that we may provide these individuals with information regarding the project.

Thank you for your time and cooperation regarding this matter. To expedite the delivery of search results, please fax them to 213.599.4301. Please contact me at 213.599.4300 or mbray@esassoc.com if you have any questions.

Sincerely,

Madeleine Bray
Cultural Resources

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
916 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
da_nahc@pacbell.net

July 2, 2010

Ms. Madeleine Bray, Cultural Resources
ESA
626 Wilshire Boulevard
Los Angeles, CA 90017

Sent by FAX TO: 213-599-4301
No. of Pages: 4

Re: Request for a Sacred Lands File Search and Native American Contacts List for the proposed **"LACWWD40 Regional Recycled Water Project 209362;"** located in the Lancaster-Palmdale area; Los Angeles County, California

Dear Ms. Bray:

The Native American Heritage Commission (NAHC), the State of California 'Trustee Agency' for the protection and preservation of Native American cultural resources. The NAHC SLF search, **did not indicate** the presence of Native American cultural resources within one-half mile of the proposed project site (APE). However, there are Native American cultural resources in close proximity to the APE.

Also, this letter includes state and federal statutes relating to Native American historic properties of religious and cultural significance to American Indian tribes and interested Native American individuals as 'consulting parties' under both state and federal law.

The California Environmental Quality Act (CEQA – CA Public Resources Code 21000-21177, amended in 2009) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ...objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect.

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Culturally-affiliated tribes and individuals may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g.APE). We recommend that you contact persons on the attached list of Native American contacts. Furthermore we suggest that you contact the California Historical Resources Information System (CHRIS) at the Office of Historic Preservation Coordinator's office (916) 653-7272, for referral to the nearest Information Center of which there are 10.

Consultation with tribes and interested Native American consulting parties on the NAHC list, should be conducted in compliance with the requirements of federal NEPA (42 U.S.C. 4371-43351) and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 *et seq.*), 36 CFR Part 800.3 (f) (2), the President's Council on Environmental Quality (CSQ, 42 U.S.C. 4371 *et seq.*) and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interior's Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes.

Also, Public Resources Code Section 5097.98 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 cemetary'.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. Regarding tribal consultation, [illegible] around regular meetings and informal involvement with local tribes [illegible] consultation tribal input on specific projects.

The response to this search for Native American cultural resources is confidential [illegible] NAHC Sacred Lands Inventory, established by the California Legislature (CA Public Resources Code 5097.94(a) and is exempt from the CA Public Records Act (c.f. California Government Code 6254.10) although Native Americans on the attached contact list may wish to reveal the nature of identified cultural resources/historic properties. Confidentiality of "historic properties of religious and cultural significance" may also be protected under Section 304 of the NHPA or the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (24 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APE and possibility threatened by proposed or future activity.

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
July 2, 2010
Los Angeles County

Charles Cooke
32835 Santiago Road
Acton , CA 93510
(661) 733-1812 - cell
suscol@intox.net

Chumash
Fernandeno
Tataviam
Kitanemuk

LA City/County Native American Indian Commission
Ron Andrade, Director
3175 West 6th Street, Rm
Los Angeles , CA 90020
randrade@css.lacounty.gov
(213) 351-5324
(213) 386-3995 FAX

Beverly Salazar Folkes
1931 Shadybrook Drive
Thousand Oaks, CA 91362
805 492-7255
(805) 558-1154 - cell
folkes9@msn.com

Chumash
Tataviam
Fernandeño

Ron Wermuth
P.O. Box 168
Kernville , CA 93238
warmoose@earthlink.net
(760) 376-4240 - Home
(916) 717-1176 - Cell

Tübatulabal
Kawaiisu
Koso
Yokuts

San Manuel Band of Mission Indians
James Ramos, Chairperson
26569 Community Center Drive
Highland , CA 92346
(909) 864-8933
(909) 864-3724 - FAX
(909) 864-3370 Fax

Serrano

Kitanemuk & Yowlumne Tejon Indians
Delia Dominguez
981 N. Virginia
Covina , CA 91722
(626) 339-6785

Yowlumne
Kitanemuk

Fernandeno Tataviam Band of Mission Indians
William Gonzales, Cultural/Environ Depart/Rudy Ortega
601 South Brand Boulevard, Suite 102
San Fernando CA 91340
rortega@tataviam-nsn.us
(818) 837-0794 Office
(818) 837-0796 Fax

Fernandeno
Tataviam

San Fernando Band of Mission Indians
John Valenzuela, Chairperson
P.O. Box 221838
Newhall , CA 91322
tsen2u@hotmail.com
(661) 753-9833 Office
(760) 885-0955 Cell
(760) 949-1604 Fax

Fernandeno
Tataviam
Serrano
Vanyume
Kitanemuk

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, and federal National Environmental Policy Act (NEPA), National Historic Preservation Act, Section 106 and federal NAGPRA. And 36 CFR Part 800.3.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed LACWWD40 Regional Recycled Water Project; located in the Lancaster - Palmdale area of northeast Los Angeles County, California for which a Sacred Lands File search and Native American Contacts list were requested.

Native American Contacts
July 2, 2010
Los Angeles County

Randy Guzman - Folkes
655 Los Angeles Avenue, Unit E
Moorpark , CA 93021
ndnRandy@gmail.com
(805) 905-1675 - cell

Chumash
Fernandeño
Tataviam
Shoshone Paiute
Yaqui

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. And, federal National Environmental Policy Act (NEPA), National Historic Preservation Act, Section 106 and federal NAGPRA. And 36 CFR Part 800.3.

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626 Wilshire Boulevard
Suite 1100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

July 21, 2010

Charles Cooke
32835 Santiago Road
Acton, CA 93510

Cultural Resources Study for the LACWWD40 Regional Recycled Water Project

Dear Mr. Cooke:

ESA is conducting environmental studies for the LACWWD40 Regional Recycled Water Project, Phase 2, located in Palmdale, County of Los Angeles. Phase 2 involves the construction of recycled water conveyance pipelines, one forebay tank, one pump station, and the conversion of two existing storage tanks from potable to recycled water use. Pipelines would be constructed within the public right-of-way of city streets, including Avenue P, 30th Street East, 10th Street East, Avenue O, Avenue M, the Sierra Highway, and within the Amargosa Creek channel. The proposed forebay tank and pump station would be located onsite at the Palmdale Water Reclamation Plant (PWRP). The project is located on the West Lancaster, East Lancaster, Palmdale and Ritter Ridge USGS 7.5' Quad (See attached maps).

In an effort to address any potential impact to archaeological or Native American resources, we are seeking comments and information from Native American representatives, and your name was supplied to us by the Native American Heritage Commission as a contact for this area. We would appreciate your comments identifying any sensitive sites in or near the project area that you may be aware of, any concerns or issues pertinent to this project, or the names of others who may be interested in this project.

Thank you for your cooperation on this matter. If you have any questions or comments, please contact me by phone at (213) 599-4300; by email at mbray@esassoc.com, or by mail at the address in the letterhead.

Sincerely,

Madeleine Bray
Cultural resources

626 Wilshire Boulevard
Suite 1100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

July 21, 2010

Beverly Salazar Folkes
1931 Shadybrook Drive
Thousand Oaks, CA 91362

Cultural Resources Study for the LACWWD40 Regional Recycled Water Project

Dear Ms. Folkes:

ESA is conducting environmental studies for the LACWWD40 Regional Recycled Water Project, Phase 2, located in Palmdale, County of Los Angeles. Phase 2 involves the construction of recycled water conveyance pipelines, one forebay tank, one pump station, and the conversion of two existing storage tanks from potable to recycled water use. Pipelines would be constructed within the public right-of-way of city streets, including Avenue P, 30th Street East, 10th Street East, Avenue O, Avenue M, the Sierra Highway, and within the Amargosa Creek channel. The proposed forebay tank and pump station would be located onsite at the Palmdale Water Reclamation Plant (PWRP). The project is located on the West Lancaster, East Lancaster, Palmdale and Ritter Ridge USGS 7.5' Quad (See attached maps).

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Sincerely,

Madeleine Bray
Cultural resources

626 Wilshire Boulevard
Suite 1100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

July 21, 2010

San Manuel Band of Mission Indians
James Ramos, Chairperson
26569 Community Center Drive
Highland, CA 92346

Cultural Resources Study for the LACWWD40 Regional Recycled Water Project

Dear Mr. Ramos:

ESA is conducting environmental studies for the LACWWD40 Regional Recycled Water Project, Phase 2, located in Palmdale, County of Los Angeles. Phase 2 involves the construction of recycled water conveyance pipelines, one forebay tank, one pump station, and the conversion of two existing storage tanks from potable to recycled water use. Pipelines would be constructed within the public right-of-way of city streets, including Avenue P, 30th Street East, 10th Street East, Avenue O, Avenue M, the Sierra Highway, and within the Amargosa Creek channel. The proposed forebay tank and pump station would be located onsite at the Palmdale Water Reclamation Plant (PWRP). The project is located on the West Lancaster, East Lancaster, Palmdale and Ritter Ridge USGS 7.5' Quad (See attached maps).

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626 Wilshire Boulevard
Suite 1100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

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July 21, 2010

Fernandeno Tataviam Band of Mission Indians
William Gonzales, Cultural/Environ Depart/Rudy Ortega
601 South Brand Boulevard, Suite 102
San Fernando, CA 91340

Cultural Resources Study for the LACWWD40 Regional Recycled Water Project

Dear Mr. Gonzales:

ESA is conducting environmental studies for the LACWWD40 Regional Recycled Water Project, Phase 2, located in Palmdale, County of Los Angeles. Phase 2 involves the construction of recycled water conveyance pipelines, one forebay tank, one pump station, and the conversion of two existing storage tanks from potable to recycled water use. Pipelines would be constructed within the public right-of-way of city streets, including Avenue P, 30th Street East, 10th Street East, Avenue O, Avenue M, the Sierra Highway, and within the Amargosa Creek channel. The proposed forebay tank and pump station would be located onsite at the Palmdale Water Reclamation Plant (PWRP). The project is located on the West Lancaster, East Lancaster, Palmdale and Ritter Ridge USGS 7.5' Quad (See attached maps).

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Madeleine Bray
Cultural resources

626 Wilshire Boulevard
Suite 1100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

July 21, 2010

Randy Guzman-Folkes
655 Los Angeles Avenue, Unit E
Moorpark, CA 93021

Cultural Resources Study for the LACWWD40 Regional Recycled Water Project

Dear Mr. Guzman-Folkes:

ESA is conducting environmental studies for the LACWWD40 Regional Recycled Water Project, Phase 2, located in Palmdale, County of Los Angeles. Phase 2 involves the construction of recycled water conveyance pipelines, one forebay tank, one pump station, and the conversion of two existing storage tanks from potable to recycled water use. Pipelines would be constructed within the public right-of-way of city streets, including Avenue P, 30th Street East, 10th Street East, Avenue O, Avenue M, the Sierra Highway, and within the Amargosa Creek channel. The proposed forebay tank and pump station would be located onsite at the Palmdale Water Reclamation Plant (PWRP). The project is located on the West Lancaster, East Lancaster, Palmdale and Ritter Ridge USGS 7.5' Quad (See attached maps).

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Sincerely,

Madeleine Bray
Cultural resources

626 Wilshire Boulevard
Suite 1100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

July 21, 2010

Ron Wermuth
P.O. Box 168
Kernville, CA 93238

Cultural Resources Study for the LACWWD40 Regional Recycled Water Project

Dear Mr. Wermuth:

ESA is conducting environmental studies for the LACWWD40 Regional Recycled Water Project, Phase 2, located in Palmdale, County of Los Angeles. Phase 2 involves the construction of recycled water conveyance pipelines, one forebay tank, one pump station, and the conversion of two existing storage tanks from potable to recycled water use. Pipelines would be constructed within the public right-of-way of city streets, including Avenue P, 30th Street East, 10th Street East, Avenue O, Avenue M, the Sierra Highway, and within the Amargosa Creek channel. The proposed forebay tank and pump station would be located onsite at the Palmdale Water Reclamation Plant (PWRP). The project is located on the West Lancaster, East Lancaster, Palmdale and Ritter Ridge USGS 7.5' Quad (See attached maps).

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Madeleine Bray
Cultural resources

626 Wilshire Boulevard
Suite 1100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

July 21, 2010

San Fernando Band of Mission Indians
John Valenzuela, Chairperson
P.O. 221838
Newhall, CA 91322

Cultural Resources Study for the LACWWD40 Regional Recycled Water Project

Dear Mr. Valenzuela:

ESA is conducting environmental studies for the LACWWD40 Regional Recycled Water Project, Phase 2, located in Palmdale, County of Los Angeles. Phase 2 involves the construction of recycled water conveyance pipelines, one forebay tank, one pump station, and the conversion of two existing storage tanks from potable to recycled water use. Pipelines would be constructed within the public right-of-way of city streets, including Avenue P, 30th Street East, 10th Street East, Avenue O, Avenue M, the Sierra Highway, and within the Amargosa Creek channel. The proposed forebay tank and pump station would be located onsite at the Palmdale Water Reclamation Plant (PWRP). The project is located on the West Lancaster, East Lancaster, Palmdale and Ritter Ridge USGS 7.5' Quad (See attached maps).

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Madeleine Bray
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626 Wilshire Boulevard
Suite 1100
Los Angeles, CA 90017
213.599.4300 phone
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July 21, 2010

LA City/County Native American Commission
Ron Andrade, Director
3175 West 6th Street
Los Angeles, CA 90020

Cultural Resources Study for the LACWWD40 Regional Recycled Water Project

Dear Mr. Andrade:

ESA is conducting environmental studies for the LACWWD40 Regional Recycled Water Project, Phase 2, located in Palmdale, County of Los Angeles. Phase 2 involves the construction of recycled water conveyance pipelines, one forebay tank, one pump station, and the conversion of two existing storage tanks from potable to recycled water use. Pipelines would be constructed within the public right-of-way of city streets, including Avenue P, 30th Street East, 10th Street East, Avenue O, Avenue M, the Sierra Highway, and within the Amargosa Creek channel. The proposed forebay tank and pump station would be located onsite at the Palmdale Water Reclamation Plant (PWRP). The project is located on the West Lancaster, East Lancaster, Palmdale and Ritter Ridge USGS 7.5' Quad (See attached maps).

In an effort to address any potential impact to archaeological or Native American resources, we are seeking comments and information from Native American representatives, and your name was supplied to us by the Native American Heritage Commission as a contact for this area. We would appreciate your comments identifying any sensitive sites in or near the project area that you may be aware of, any concerns or issues pertinent to this project, or the names of others who may be interested in this project.

Thank you for your cooperation on this matter. If you have any questions or comments, please contact me by phone at (213) 599-4300; by email at mbray@esassoc.com, or by mail at the address in the letterhead.

Sincerely,

Madeleine Bray
Cultural resources

626 Wilshire Boulevard
Suite 1100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

July 21, 2010

Ms. Delia Dominguez
Kitanemuk & Yowlumne Tejon Indians
981 N. Virginia
Covina, CA 91722

Cultural Resources Study for the LACWWD40 Regional Recycled Water Project

Dear Ms. Delia Dominguez:

ESA is conducting environmental studies for the LACWWD40 Regional Recycled Water Project, Phase 2, located in Palmdale, County of Los Angeles. Phase 2 involves the construction of recycled water conveyance pipelines, one forebay tank, one pump station, and the conversion of two existing storage tanks from potable to recycled water use. Pipelines would be constructed within the public right-of-way of city streets, including Avenue P, 30th Street East, 10th Street East, Avenue O, Avenue M, the Sierra Highway, and within the Amargosa Creek channel. The proposed forebay tank and pump station would be located onsite at the Palmdale Water Reclamation Plant (PWRP). The project is located on the West Lancaster, East Lancaster, Palmdale and Ritter Ridge USGS 7.5' Quad (See attached maps).

In an effort to address any potential impact to archaeological or Native American resources, we are seeking comments and information from Native American representatives, and your name was supplied to us by the Native American Heritage Commission as a contact for this area. We would appreciate your comments identifying any sensitive sites in or near the project area that you may be aware of, any concerns or issues pertinent to this project, or the names of others who may be interested in this project.

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Sincerely,

Madeleine Bray
Cultural resources

APPENDIX C

DPR Forms (Confidential)

APPENDIX D

Resource Location Map (Confidential)

Appendix D

USFWS Concurrence Letter
to Be Provided per
NEPA Compliance

SHPO Concurrence Letter
to Be Provided per
NEPA Compliance

ESA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX Southern California Field Office
600 Wilshire Blvd. Suite 1460
Los Angeles, CA 90017

May 23, 2012

Mr. Carl Benz
U.S. Fish and Wildlife Service
2493 Portola Rd. #B
Ventura, CA 93003

Subject: Los Angeles County Waterworks District No. 40, Antelope Valley, Recycled Water Improvement Project EPA Region 9 Grant Tracking # 09-108

Dear Mr. Benz:

The purpose of this letter is to request Fish and Wildlife Service (USFWS) concurrence with respect to the proposed recycled water improvement project (proposed project or Phase 2) of the Los Angeles County Waterworks District No. 40, Antelope Valley (District). Phase 2 would include construction of the following components: recycled water conveyance pipelines, a pump station, and a recycled water storage tank. The proposed project would be part of a regional backbone system that would allow for the distribution of recycled water throughout the Antelope Valley to offset potable demand for non-potable applications.

Description of the Proposed Activity

The physical improvements associated with implementation of Phase 2 would be located almost entirely within the City of Palmdale. In general, the project would be bounded by Avenue M to the north, Avenue P to the south, the Antelope Valley Freeway (State Highway 14) to the west, and the Palmdale Water Reclamation Plant (PWRP) to the east. The project area is generally surrounded by undeveloped parcels that contain desert vegetation typical of the western Mojave Desert, which includes creosote and desert shrubs. The proposed pipeline would be constructed primarily within roadway right-of-ways and would pass through undeveloped desert, residential and commercial areas, alongside a golf course, and along and across Amargosa Creek. The proposed pump station would be located at the PWRP. The proposed steel recycled water storage tank would be located within a County-owned parcel adjacent to the freeway, next to an existing potable water storage tank.

Construction of Phase 2 would last a total of 24 months. Pipeline installation would be ongoing for the duration of construction. The construction of the pump station would take approximately nine months and the construction of the storage tank would take approximately six months. The construction corridor would be approximately 20 feet wide to allow for traffic control, staging areas and vehicle access. Construction staging areas would be identified by the contractor for pipe lay-down, soil stockpiling, and equipment storage. All construction activities would occur

during daytime hours and no night lighting would be required for construction. Pipeline construction within the roadway would likely require partial lane closures, but complete road closures are not anticipated. A summary of the three components comprising Phase 2 is provided below.

- Package 1: Recycled Water Pipelines. Phase 2 pipeline construction would take a total of 24 months. Phase 2 would include installation of 41,250 linear feet of 24-inch pipeline and 5,200 linear feet of 16-inch pipeline. Construction of the pipelines would involve trenching using a conventional cut and cover technique, and jacking and boring where necessary. On average, 50 to 100 feet of pipeline may be installed per day. Approximately six to seven workers per day would be required for pipeline installation. The construction equipment needed for pipeline installation includes: backhoe, excavator, welding equipment, boom lift truck, steam roller, and plate compactor. Equipment would be operated approximately eight hours each day. Up to two or three workers would be required for traffic control during pipeline installation. Equipment necessary for traffic control includes changeable message signs, delineators, arrow boards, and K rails. Traffic control plans for the project would be coordinated with both the City of Palmdale and the City of Lancaster as applicable.

- Package 2: Recycled Water Pump Station**.** Phase 2 includes a proposed pump station located at the PWRP that would pump recycled water from the PWRP through the backbone system pipelines to the proposed storage tank. Pump station construction would take approximately nine months. The pump station would have a total capacity of 9,200 gallons per minute and a construction footprint of approximately 1,200 square feet. The pump station would be housed in a single-story building with a pump room and an electrical control room. Construction of the pump station would include installation of piping and electrical equipment, excavation and structural foundation installation, pump house construction, pump and motor installation, and final site restoration. Power to the pump station would be provided through underground service to minimize the possibility of damage during fires. Outside security lighting would be installed at the pump station. Approximately three to six workers would be required at a time during various stages of pump station construction, with the exception of the masonry phase, which would require up to 12 workers. The construction equipment needed for pump station construction includes: auger truck, backhoe, boom lift truck, excavator, plate compactor, and scaffolding. Equipment would be operated approximately eight hours each day.

- Package 3: Recycled Water Storage Tank. Phase 2 includes a proposed storage tank located on a parcel owned by the District, adjacent to the Antelope Valley Freeway. Storage tank construction would take approximately six months. The storage tank would have a 3.0 million gallon capacity. Construction of the storage tank would include site preparation and clearing, excavation, grading, tank erection and painting, and site restoration. The storage tank would be prefabricated of 8-foot-high steel rings, stacked and welded to the desired height. Outside security lighting and security fencing and block wall would be installed around the storage tank. Approximately three to six workers would be required at a time during various stages of storage tank construction, with the exception of the masonry phase, which would require up to 12 workers. The equipment needed for storage tank construction includes: cranes, flatbed trucks for panels, heavy duty welding machines, excavators, scrapers, rollers, pre-

stressing equipment and backhoes for foundation, and painting equipment. Equipment would be operated approximately eight hours each day.

Potential Adverse Effects to Federally Listed Species

Implementation of Phase 2 could potentially result in adverse impacts to local and regional biological resources that may occur in the project area. This includes 19 special-status wildlife species and rare plants listed in listed in Table 1 and Table 2 of the Biological Resources Technical Report. Of the 19 listed species in Tables 1 and 2, one species is listed as endangered (least Bell's vireo) and one is listed as threatened (California red-legged frog). It was determined that recommended mitigation measures would ensure that any potential impacts to biological resources would be reduced to a less than significant level. Areas of proposed pipeline placement are generally disturbed, with various scattered commercial and residential developments adjacent to the right-of-way. Undeveloped areas adjacent to the right-of-way mainly consist of native and nonnative ruderal vegetation. The area where the proposed pump station is located is an existing water reclamation plant which is permanently disturbed and devoid of vegetation and associated wildlife habitats. The area where the proposed storage tank is located is highly disturbed and adjacent to an existing potable water storage tank and the Antelope Valley Freeway. Disturbed non-native habitats, such as those that occur within the areas of Phase 2 improvements, generally provide low quality wildlife habitat. However, agricultural areas can provide high quality habitat for certain wildlife species. Due to the highly disturbed/developed nature of the project area, as well as the nature of the improvements being made, potential impacts to special-status plants and wildlife species are anticipated to be minimal.

Conclusion

Pursuant to Section 7 of the Endangered Species Act, I have made a determination of not likely to adversely affect species or critical habitat. Please inform us within 30 days if you concur with our proposed findings. If you do not reply within this 30 day period, EPA will consider the lack of reply to indicate USFWS agreement with the findings.

For further information, please call Howard Kahan at (213) 244-1819 or Howard Kahan, US EPA Southern California Field Office 600 Wilshire Blvd. Suite 1460 (WTR-4), Los Angeles, CA 90017.

Sincerely,

Howard Kahan
Environmental Scientist

Enclosures: Biological Resources Technical Report

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX Southern California Field Office
600 Wilshire Blvd. Suite 1460
Los Angeles, CA 90017

May 29, 2012
Milford Wayne Donaldson
State Historic Preservation Officer
Office of Historic Preservation
PO Box 942896
Sacramento, CA 94296-0001

Subject: Request for Concurrence under Section 106 of the National Historic Preservation Act (NHPA) for the Los Angeles County Waterworks District No. 40, Antelope Valley, Recycled Water Infrastructure Improvement Project

Dear Mr. Donaldson:

In accordance with Section 106 of the National Historic Preservation Act of 1996, as amended (16 U.S.C. 470f), and its implementing regulation, 36 CFR 800 "Protection of Historic Properties," and as authorized by the U.S. Environmental Protection Agency, we are initiating consultation with your office regarding the proposed recycled water improvement project (proposed project or Phase 2) of the Los Angeles County Waterworks District No. 40, Antelope Valley (District). Below is a brief summary of the project and findings. Enclosed please find the necessary documentation per Section 800.11.

Project Description

The District received an appropriation in Fiscal Year 2009 from the United States Environmental Protection Agency (EPA) for the proposed project. The District proposes to implement Phase 2 of the North Los Angeles/Kern County Regional Recycled Water Project. Phase 2 would include construction of recycled water conveyance pipelines, a pump station, and a recycled water storage tank. The District proposes to construct 41,250 linear feet of 24-inch pipeline, 5,200 linear feet of 16-inch pipeline, a pump station capable of pumping 9,200 gallons per minute, and a 3.0 million gallon storage tank. The proposed project would be part of a regional backbone system that would allow for the distribution of recycled water throughout the Antelope Valley to offset potable demand for non-potable applications.

Area of Potential Effect

The Area of Potential Effect (APE) is located within the Antelope Valley, which encompasses approximately 2,400 square miles in northern Los Angeles County (County), southern Kern County, and western San Bernardino County. The physical improvements associated with implementation of Phase 2 would be located mainly within the City of Palmdale (City). In general, the project would be bounded by Avenue M to the north, Avenue P to the south, the Antelope Valley Freeway (State Highway 14) to the west, and the Palmdale Water Reclamation Plant (PWRP) to the east. The horizontal APE includes the construction footprint for activity

related to all Phase 2 components, and the vertical APE is defined by the depth of excavation required during trenching for the installation of the pipeline and construction of the pump station and storage tank. While this may vary across the APE, it is estimated that in general the pump station building footprint is one and a half feet deep; the storage tank site is ten feet deep; the pipeline trench would be five to seven feet deep and four to five feet wide; and jack and bore pits would be up to 30 feet wide and between five to 20 feet deep. The pipelines would be constructed primarily within the public right-of-way of City and County streets, and would cross the Amargosa Creek just northeast of the new storage tank. In addition, the pipeline would make two crossings beneath the Metrolink/Union Pacific Railroad as it runs parallel to Sierra Highway, and below two drainage culverts installed under Sierra Highway. The proposed pump station would be located at the site of the Palmdale Water Reclamation Plant. The proposed recycled water storage tank would be located within a County-owned parcel adjacent to the Antelope Valley Freeway, next to an existing potable water storage tank. The APE is depicted in the enclosed Phase I Cultural Resources Survey.

Identification of Historic Properties

Under section 800.4 (b), an effort has been made to identify historic properties. In 2008, a cultural and paleontological resources assessment was prepared, which encompasses 70 linear miles of proposed pipeline and eight potential pump station and reservoir localities. In 2010, the proposed pipeline route for Phase 2 was altered to include approximately 8.75 miles of recycled water pipeline alignment, of which 5.25 miles had not been evaluated in the original cultural resources assessment. The District contracted with Environmental Science Associates (ESA) to perform an updated archival records review for the 8.75 miles of recycled water pipeline and to conduct a cultural resources pedestrian survey of the 5.25 miles of recycled water pipeline not evaluated in the original cultural resources assessment.

The enclosed Phase I Cultural Resources Survey summarizes that effort which included a historical background research, field survey, and outreach to tribal representatives.

- ESA conducted a records search for the APE and 1/2 mile radius on July 1, 2010, at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton. The records search indicated that a total of 30 cultural resources have been previously recorded within 1/2 mile of the APE. Two of these resources are located within the APE. Resource P-19-180638 is a segment of the Southern Pacific Railroad and resource P-19-003705 is a 20th century debris scatter.

- The previous study prepared for the PEIR included an archaeological survey of 3.5 miles of the current APE, including the portion of the APE along Sierra Highway between Avenue M and Avenue O-8. Because this area was so recently surveyed, it was not surveyed again as part of the current effort. ESA archaeologists conducted a field survey of the remaining 5.25 linear mile APE on July 23, 2010. ESA performed additional site recordation on January 27, 2011. Areas that were not built-up or otherwise disturbed were subject to intensive pedestrian survey. A survey area was delineated that consisted of an approximately 20-foot wide corridor centered on the pipeline centerline. The proposed pump station location at the PWRP and the proposed water tank location were

subject to a reconnaissance level survey. During the pipeline survey, a total of four cultural resources were recorded within or immediately adjacent to the current APE that are described and evaluated in this report. These four resources consist of three archaeological resources dating to the mid-20th century (P-19-003705, P-19-004284, and P-19-004285) and one historic built feature (P-19-180638, a segment of the Southern Pacific Railroad). All resources were recorded on Department of Parks and Recreation forms and submitted to the SCCIC.

- A Sacred Lands File (SLF) search for the proposed project was requested from the California Native American Heritage Commission (NAHC) on July 1, 2010. The SLF search failed to indicate the presence of Native American cultural resources within the APE. Follow-up correspondence was conducted with all individuals and groups indicated by the NAHC as having affiliation with the survey areas. To date, no responses have been received.

Evaluation of Historic Significance

Under section 800.4 (c), the National Register of Historic Places criteria have been applied to the four resources encountered. These four resources consist of three archaeological resources dating to the mid-20th century (P-19-003705, P-19-004284, and P-19-004285) and one historic built feature (P-19-180638, a segment of the Southern Pacific Railroad). Resources P-19-003705, P-19-004284, and P-19-004285 are recommended not eligible for listing in the National Register of Historic Places or California Register of Historical Resources. Resource P-19-180638 is being assumed eligible for the purposes of this project, and will be avoided during construction.

Assessment of Adverse Effects

The enclosed report recommends a finding that no historic properties will be affected as a result of the project. Nonetheless, a contingency mitigation measure is recommended in the event of accidental discovery of cultural resources during construction. Under section 800.5 (a), the EPA has applied the criteria of adverse effect and has determined that the project will result in a finding of **no historic properties affected**.

The EPA requests your concurrence with the Area of Potential Effect, the eligibility recommendations, 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 or Howard Kahan, US EPA Southern California Field Office 600 Wilshire Blvd. Suite 1460 (WTR-4), Los Angeles, CA 90017.

Sincerely,

Howard Kahan
Environmental Scientist

Enclosures: Phase I Cultural Resources Survey