

# ARCHAEOLOGICAL SURVEY REPORT

## Interstate 10 Corridor Project

San Bernardino and Los Angeles Counties

07-LA-10 PM 44.9/48.3  
08-SBD-10 PM 0.0/R37.0

EA 0C2500  
EFIS ID 0800000040



April 2015




STATE OF CALIFORNIA  
Department of Transportation



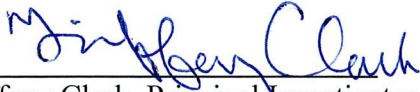
**Archaeological Survey Report**  
**For**  
**Interstate 10 Corridor Project**  
**San Bernardino and Los Angeles Counties, California**

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**April 2015**

NADB data: Total acres surveyed = 2459.1 acres (ac) (995.1 hectares [ha]);  
Fontana, Guasti, Ontario, Redlands, and San Bernardino South 7.5-minute USGS Topographic Maps;  
Historical archaeological resource identified: CA-SBR-8092H and CA-SBR-12989H.



## SUMMARY OF FINDINGS

The California Department of Transportation (Caltrans), in conjunction with San Bernardino Associated Governments (SANBAG), proposes to improve the Interstate 10 (I-10) corridor. The proposed I-10 Corridor Project (Project) consists of adding lane(s) and providing improvements along all or a portion of the existing 33-mile-long stretch of I-10 from approximately 2 miles west of the Los Angeles/San Bernardino county line in the City of Pomona to Ford Street in the City of Redlands (see Figures 1 and 2 in Exhibit 1 of the Historic Property Survey Report [HPSR] prepared for this Project). The Project considers one “no build” alternative and two “build” alternatives to address existing and future projected traffic demands.

The archaeological survey and identification effort included cultural resource records and literature searches, Native American consultation, and reconnaissance and intensive pedestrian (Phase I) surveys of the Area of Direct Impact (ADI). Record searches indicated that nine pending and four known historical archaeological sites were potentially within the Project Area of Potential Effects (APE). Pending archaeological resources that have not been formally recorded onto Department of Parks and Recreation (DPR) 523 forms include an unnamed road (P1074-61H), Tenney Ditch (P1063-49H), Marias Araminta Ditch (P1063-52H), Hunt and Cooley Ditch (P1074-84H), Camp Carlton Ditch (P1074-85H), Jansen Ditch (P1074-86H), Rancheria Ditch (P1074-88H), Old Meeks and Daley Ditch (P1074-104H), and Sunnyside and South Fork Ditches (PSBR-21-H). Known historical archaeological sites recorded into the California Historical Resources Information System include the Mill Creek *Zanja* (CA-SBR-8092H), the former site of Kaiser Steel (CA-SBR-4131H), the Old Kite Railroad Route (CA-SBR-6847H), and the East Redlands Canal (CA-SBR-8546H). No previously recorded prehistoric archaeological sites are located within the APE. Finally, as a result of Native American and public consultation efforts, the multi-component site of Crystal Springs Ranch (CA-SBR-2316/H) was identified in the Project vicinity outside the boundaries of the APE, and concern was raised over the potential for encountering buried historical archaeological deposits near Orange Street in the City of Redlands.

Of the four known historical archaeological sites reported within the Project APE, the Mill Creek *Zanja* has been listed on the National Register of Historic Places (NRHP), and has been designated as California Historical Landmark (CHL) No. 43; this site has also been designated as Engineering Landmark No. 21 by the Los Angeles Section of the American Society of Civil Engineers. Although portions of the Mill Creek *Zanja* have been recorded as historical archaeological resources, it continues to convey water and meets the definition of a “structure;” therefore, this resource is documented as a historic built-environment resource in the Historical Resources Evaluation Report (HRER) being prepared in support of this Project (see Exhibit 3 of the Historic Property Survey Report [HPSR] prepared for this Project). Finally, the Kaiser Steel Mill in Fontana has been designated as a California Point of Historical Interest (CPHI) (CHPI-71).

Reconnaissance or windshield surveys were first conducted in December 2008 and September 2009 in accordance with standard Caltrans guidelines and procedures (Caltrans 2013). The primary purpose of these reconnaissance efforts was to re-identify known archaeological sites within the Project area and to assess their current condition. During the 2008 phase of this Project, 16 potential construction staging areas (CSAs) were identified, and these proposed CSAs are being carried forward with this iteration of the Project. In December 2008, an intensive Phase I survey was undertaken on five of the 16 proposed CSAs (57.31 acres) within the Project APE. The results of that survey effort identified the Curtis Homestead Site (CA-SBR-12989H). The remaining 11 CSAs were not surveyed at that time. For the preparation of this ASR, it was determined that six of the originally proposed 11 CSAs were found to exhibit extensive ground disturbance that made them unsuitable for pedestrian survey due to either substantial ground disturbance or recent construction activities. Additionally, subsequent design modifications to the Project resulted in the elimination of the remaining five CSAs not examined during the December 2008 survey.

Expansion of the Project ADI prompted a second round of reconnaissance surveys in January 2014. This latter work focused on identifying areas within the expanded Project ADI (2,537.2 acres) that were not extensively disturbed by construction or maintenance of the existing I-10, or by urban development. Parcels that were extensively disturbed by prior earth-moving activities or native ground surfaces that were not visible were deemed to have little potential to encounter intact cultural resources and were exempted from review for the purposes of this study. Portions of 70 parcels, totaling 81.63 acres, were identified within the Project ADI that contained exposed native sediments that exhibited relatively low levels of ground disturbance. In July and August 2014, intensive pedestrian surveys were conducted on these parcels. Two of the 70 parcels (Assessor's Parcel Numbers [APNs] 013221111 and 013219115) could not be examined as these properties were fenced and inaccessible. An additional parcel (APN 016924434) had recently been sold and the new property owners could not be identified, thus permission to enter was not obtained. For each of these three parcels, an attempt was made to examine the ground surface from the public ROW in order to assess the cultural sensitivity of the area. The portions of the three parcels that were not intensively inspected in the Phase I survey totaled 1.20 acres, which reduced the pedestrian survey area of the expanded Project ADI to 80.43 acres.

Results of the field survey indicate that three of the four known historical archaeological sites reported within the Project APE have been destroyed (the Kaiser Steel Mill [CA-SBR-4313H], the Old Kite Railroad Route [CA-SBR-6847H], and the East Redlands Canal [CA-SBR-8546H]). In addition, no visible traces of the nine pending historical archaeological sites or the Crystal Springs Ranch (CA-SBR-2316/H) were observed within the Project APE during the field survey. A segment of the Mill Creek *Zanja* (CA-SBR-8092) was identified in the Project APE by consultants during the reconnaissance survey. As this portion of the *Zanja* had not been formally recorded, a DPR 523 Form was completed during the fieldwork effort (see Appendix A in Exhibit 3 of the HPSR prepared for this Project).

One newly identified historical archaeological resource, the Curtis Homestead Site (CA-SBR-12989H), was identified in the Project APE. The site is located in a proposed CSA (APN 028124109) and appears to be the structural remains and an associated domestic refuse scatter related to the Curtis family (George W. Curtis and his brother, Jeremiah Curtis). The Curtis family is credited as being one of the earliest navel orange producers in the Redlands region and

one of the important founders of the Inland Empire's citrus industry. Due to the high potential for the site to contain subsurface hollow features such as privies and cisterns that may contain significant buried cultural deposits important in history, CA-SBR-12989H shall be assumed eligible for listing in the NRHP under Criterion D for purposes of this Project only, and an Environmentally Sensitive Area (ESA) will be established pursuant to Stipulation VIII.C.3 of the Caltrans Section 106 Programmatic Agreement (Section 106 PA); the site will be avoided during all Project-related construction activities.

It is Caltrans' policy to avoid cultural resources whenever possible. Therefore, if buried cultural materials are encountered during construction, it is Caltrans' policy that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find. Additional survey will be required if the Project changes to include areas not previously surveyed.

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# 1

## INTRODUCTION

The California Department of Transportation (Caltrans), in conjunction with San Bernardino Associated Governments (SANBAG), proposes to improve the Interstate 10 (I-10) corridor. The proposed I-10 Corridor Project (Project) consists of adding lane(s) and providing improvements along all or a portion of the existing 33-mile-long stretch of I-10 from approximately 2 miles west of the Los Angeles/San Bernardino county line in the City of Pomona to Ford Street in the City of Redlands (see Figures 1 and 2 in Exhibit 1 of the Historic Property Survey Report [HPSR] prepared for this Project). The Project considers one “no build” alternative and two “build” alternatives to address existing and future projected traffic demands.

The archaeological survey and identification effort included cultural resource records and literature searches, Native American consultation, and reconnaissance and pedestrian surveys of the Area of Direct Impact (ADI). Archaeological fieldwork for the Project was conducted by Applied EarthWorks, Inc. (Æ) in December 2008; September 2009; and January, July, and August 2014.

The following is a list of key Æ personnel who participated in the study, their general qualifications, educational background, number of years of experience, general geographic location of field experience, and Caltrans Professionally Qualified Staff (PQS) level.

### Æ Key Personnel

- **John J. Eddy** is the Cultural Resource Project Manager and Principal Investigator for the Project. Mr. Eddy holds a master’s degree in Anthropology from California State University, Northridge; has been certified by the Register of Professional Archaeologists (RPA) since 2013; and meets the U.S. Secretary of the Interior’s Professional Qualifications Standards in Archaeology. He has more than 10 years of professional experience in California archaeology with an emphasis in prehistoric desert culture. Mr. Eddy is qualified as a Principal Investigator in prehistoric archaeology.
- **Tiffany Clark** is a Senior Archaeologist and Co-Principal Investigator for the I-10 Project. She has 17 years of experience in cultural resource management. Her areas of expertise include the prehistory of the interior deserts of the American Southwest, ceramic analysis, zooarchaeology, and economic organization. Dr. Clark has been involved in numerous archaeological survey, testing and data recovery, and mitigation monitoring programs in California, Arizona, Utah, and New Mexico. She is qualified as a Principal Investigator in prehistoric archaeology. She has been certified by the RPA since 2011 and meets the U.S. Secretary of the Interior’s Professional Qualifications Standards in Archaeology.

- **Melinda Horne** was the Principal Investigator for the Project in 2008 and 2009. Ms. Horne received her B.A. and M.A. in Anthropology/Geography from the University of Utah in 1980 and 1984, respectively; Ms. Horne has more than 30 years of archaeological experience in California, Oregon, Nevada, and Utah.
- **Dennis McDougall** was the Field Supervisor for the Project in 2008 and 2009. Mr. McDougall attended the UCLA Field School in 1974/1975, and has more than 35 years of archaeological field experience in California, Nevada, Oregon, and Wyoming.
- **David Earle** is the Historian for the Project. Mr. Earle is the president of Earle and Associates and has been a subconsultant to Applied Earthworks, Inc. since 2002. He holds a B.A. and M.A. in Anthropology from Hamilton College and University of California, Santa Barbara, respectively. Mr. Earle has over two decades of experience in integrating documentary and archival information and archaeological data in interpreting and evaluating prehistoric and historical archaeological sites and properties.

## HIGHWAY PROJECT LOCATION AND DESCRIPTION

### 2.1 INTRODUCTION

The purpose of the Project is to improve traffic operations on I-10 in San Bernardino County in order to reduce congestion, increase throughput, and enhance trip reliability for the planning design year of 2045 (see Figures 1 and 2 in Exhibit 1 of the HPSR).

The objectives of the Project are to:

- Reduce volume-to-capacity (v/c) ratios along the corridor;
- Improve travel times within the corridor;
- Provide a facility that is compatible with transit and other modal options;
- Provide consistency with the Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP);
- Provide a cost effective Project solution; and
- Minimize environmental impacts and right-of-way (ROW) acquisition.

### 2.2 PROJECT DESCRIPTION

A No Build and two build alternatives are being considered for the Project, as described below:

- Alternative 1 (No Build) would maintain the existing lane configuration of the I-10 corridor with no additional mainline lanes or associated improvements to be provided.
- Alternative 2 (High Occupancy Vehicle [HOV] Lane Alternative) proposes to extend the existing HOV lane in each direction of I-10 from the current HOV terminus near Haven Avenue in Ontario to Ford Street in Redlands, a distance of approximately 25 miles. Alternative 2 traverses seven cities (Ontario, Fontana, Rialto, Colton, San Bernardino, Loma Linda, and Redlands) and unincorporated areas of San Bernardino County including Etiwanda, Bloomington, and Bryn Mawr.
- Alternative 3 (Express Lanes Alternative) proposes to provide two Express Lanes in each direction of I-10 from the Los Angeles/Santa Bernardino county line to California Street in Redlands and one Express Lane in each direction from California Street to Ford Street in Redlands, a total of 33 miles. Between the Los Angeles/San Bernardino county line and Haven Avenue, the existing HOV lane in each direction of I-10 would be combined with an additional lane to provide two express lanes in each direction. The Express Lanes would be priced managed lanes in which vehicles not meeting the minimum occupancy requirement would pay a toll. Alternative 3 traverses 10 cities (Claremont, Pomona, Montclair, Ontario, Fontana, Rialto, Colton, San Bernardino, Loma Linda, and Redlands) and unincorporated areas of San Bernardino County including Etiwanda, Bloomington, and Bryn Mawr.

### **2.2.1 Alternative 1 – No Build**

Except as discussed in the subsequent paragraphs, the No Build Alternative would maintain the existing configuration of the I-10 corridor with no additional freeway lanes to be provided. Without additional freeway lanes, additional traffic congestion resulting from regional growth will further degrade traffic conditions along the corridor and worsen operational deficiencies, resulting in reduced travel speeds and longer commute times. Additionally, the No Build Alternative is inconsistent with the regional programs for transportation improvements and the California Department of Transportation's (Caltrans') goal of providing an efficient and effective interregional mobility system. Since there are no improvements anticipated within the Project limits, there are no construction or ROW costs associated with this alternative.

The future (design year 2045) configuration under the No Build Alternative assumes the completion of improvements along the Project corridor by San Bernardino Associated Governments (SANBAG), Caltrans, and local agencies that are currently in planning or being implemented including:

#### **Recently Completed Improvements (shown in topographic base map as existing)**

- I-10/Cherry Avenue interchange project (EA 468004) completed in 2014
- I-10/Citrus Avenue interchange project (EA 648104) completed in 2015
- I-10/Riverside Avenue interchange project (EA 422304) completed in 2014
- I-10/Tippecanoe Avenue interchange project (EA 384204 & 448124) completed in 2015
- Ramp metering project (EA 384344) completed in 2013
- Auxiliary lane project (EA 497504) completed in 2013
- Colton Crossing project completed in 2013
- Westbound Lane Addition from Ford Street to Live Oak Canyon Road (EA 0F1504) completed in 2013

#### **Planned Improvements Prior I-10 Corridor Project Construction (shown in topographic base map as existing)**

- I-10/Cedar Avenue interchange project (EA 1A8300) by 2016
- I-10/Pepper Avenue Bridge Replacement project (EA 1E030) by 2016
- Santa Ana River Bridge retrofit (EA 0Q910K) by 2016
- Ford Street signalization improvements (Encroachment Permit) by 2015

#### **Planned Improvements (not shown in topographic base map)**

- I-10/Grove Avenue interchange construction and removal of I-10/4<sup>th</sup> Street interchange by 2025
- I-10/Beech Avenue interchange construction by 2023
- I-10/Alder Avenue interchange construction by 2030
- I-10/Mt. Vernon Avenue interchange improvements by 2025
- I-10/Mountain View Avenue interchange improvements by 2030
- I-10/California Street interchange improvements by 2030

- I-10/University Street interchange improvements by 2025
- I-10/Wabash Avenue interchange improvements by 2015
- Mountain Avenue widening from 4 to 6 lanes south of I-10 by 2018
- Vineyard Avenue widening from 4 to 6 lanes between Fourth Street and I-10 by 2030
- Etiwanda Avenue widening from 4 to 6 lanes south of I-10 by 2014
- Beech Avenue widening from 2 to 4 lanes north of I-10 by 2020
- Alder Avenue widening from 2 to 4 lanes north and south of I-10 by 2020
- Pepper Avenue widening from 2 to 4 lanes from Slover Avenue to Valley Boulevard by 2020
- Waterman Avenue widening from 4 to 6 lanes from Hospitality Lane to Redlands Blvd by 2030
- California Street widening from 5 to 6 lanes from Redlands Boulevard to I-10 by 2020
- Cypress Avenue widening from 2 to 4 lanes from I-10 to Citrus Avenue by 2030
- Ford Street widening from 2 to 4 lanes north of I-10 by 2030
- Addition of HOV lanes on I-10 from Ford Street to San Bernardino / Riverside county line by 2030
- Revision of HOV lane striping on I-10 between Los Angeles / San Bernardino county Line and Haven Avenue to provide continuous access (not in RTP yet)

### **2.2.2 Alternative 2 – High Occupancy Vehicle (HOV)**

Alternative 2 would extend the existing HOV lane in each direction of I-10 from the current HOV terminus near Haven Avenue to Ford Street, a distance of approximately 25 miles. The proposed improvements under Alternative 2 would involve construction work within the following route and post mile:

- 08-SBd-10 PM 4.7/R37.0

In addition to the mainline widening, the Project includes reconstruction and/or modification of interchange ramps, local arterials, and structures that are necessary to accommodate the proposed freeway widening, including new or reconstruction of retaining walls and soundwalls where appropriate. Existing concrete barrier, temporary railings, metal beam guardrails, and three-beam barriers in the median of I-10 will be replaced with concrete barrier Type 60G, and median lighting will be provided where required. Existing auxiliary lanes will be reestablished in kind and additional auxiliary lanes will be added where warranted.

The base condition for Alternative 2 assumes the completion of improvements along the Project corridor currently in planning or being implemented as listed under the No Build Alternative discussion. The following descriptions are specific improvements in Alternative 2:

#### **Alternative 2 Mainline Improvements**

- Add one HOV Lane in each direction from Haven Avenue to Ford Street
- Reestablish existing auxiliary lanes along the corridor
- Construct new westbound auxiliary lane between Rancho Avenue and La Cadena Drive

## **Alternative 2 Interchange Ramp Improvements**

Alternative 2 encompasses three system interchanges (I-10/I-15 Interchange, I-10/I-215 Interchange, and I-10/SR-210 Interchange) and 21 local street interchanges from Haven Avenue to Ford Street. Alternative 2 would require reconstruction of several interchange ramps to accommodate the I-10 widening.

## **Alternative 2 Local Street Improvements**

Richardson Street and Tennessee Street, including their structures, over I-10 would need to be replaced with a longer-span structure to accommodate the widened freeway.

## **Alternative 2 Railroad Involvement**

Five railroad crossings over or under I-10 would be impacted by the proposed freeway widening:

1. UPRR Kaiser Spur OH (widen)
2. UPRR Slover Mountain UP (replace)
3. UPRR Colton Crossing OH (widen)
4. UPRR Pavillion Spur OH (abandon)
5. BNSF West Redlands OH (widen)

## **Alternative 2 Structure Improvements**

Alternative 2 would necessitate replacement of two structures, widening of 31 structures, partial reconstruction of four structures, and construction of tie-back walls at two overcrossing structures. Four structures are planned to be abandoned in place.

## **Alternative 2 Drainage Improvements**

Several drainage structures along the Project corridor would be improved as part of the proposed Project.

### **2.2.3 Alternative 3 – Two Express Lanes in Each Direction**

Alternative 3 would provide two Express Lanes in each direction of I-10 from the Los Angeles/San Bernardino county line to California Street in Redlands and one Express Lane from California Street to Ford Street in Redlands. Between the Los Angeles/San Bernardino county line and Haven Avenue, the existing HOV lane in each direction of I-10 would be combined with an additional lane to provide two express lanes in each direction. The Express Lanes would be priced managed lanes in which vehicles not meeting the minimum occupancy requirement would pay a toll.

The project traverses 10 cities (Claremont, Pomona, Montclair, Ontario, Fontana, Rialto, Colton, San Bernardino, Loma Linda, and Redlands) and unincorporated areas of San Bernardino County including Etiwanda, Bloomington and Bryn Mawr. The proposed improvements are generally



within San Bernardino County with some improvements in Los Angeles County to facilitate transitioning between the existing HOV cross section in Los Angeles and the proposed Express Lane cross section in San Bernardino.

The proposed improvements under Alternative 3 would involve construction work within the following routes and post miles:

- 07-LA-10 PM 44.9/48.3
- 08-SBd-10 PM 0.0/R37.0
- 08-SBd-15 PM 0.7/4.0
- 08-SBd-38 PM 0.0/0.3
- 08-SBd-83 PM 10.7/11.5
- 08-SBd-210 PM R33.0/R31.5
- 08-SBd-215 PM 2.1/5.7

In addition to the mainline widening, the Project includes reconstruction and/or modification of interchange ramps, local arterials, and structures that are necessary to accommodate the proposed freeway widening, including new or reconstruction of retaining walls and soundwalls where appropriate. Existing concrete barrier, temporary railings, metal beam guardrails, and three-beam barriers in the median of I-10 will be replaced with concrete barrier Type 60G and median lighting will be provided. Existing auxiliary lanes will be reestablished in kind and additional ones will be added where warranted. CHP enforcement areas will be provided in the I-10 median at selected locations.

The base condition for Alternative 3 assumes the completion of improvements along the Project corridor currently in planning or being implemented as listed under the No Build Alternative discussion. Proposed engineering features in Alternative 3 are summarized as follows:

### **Alternative 3 Mainline Improvements**

- Add one Express Lane in each direction from the Los Angeles/San Bernardino county line to Haven Avenue to operate jointly with existing HOV lanes as two Express Lanes in each direction
- Add two Express Lanes in each direction from Haven Avenue to California Street
- Add one Express Lane in each direction from California Street to Ford Street
- Reestablish existing auxiliary lanes along the corridor
- Construct new eastbound auxiliary lane between Mountain Avenue and Euclid Avenue
- Modify existing westbound auxiliary lane at Haven Avenue westbound on-ramp to begin at Haven Avenue westbound loop on-ramp
- Modify existing eastbound auxiliary lane at Haven Avenue eastbound on-ramp to begin at Haven Avenue eastbound loop on-ramp
- Extend westbound auxiliary lane preceding the Riverside Avenue off-ramp to Pepper Avenue
- Construct new westbound auxiliary lane between Rancho Avenue and La Cadena Drive
- Provide 10 ingress/egress access points, nine with additional weave lane and one as weave zone

## **Ingress/Egress Access Points**

Ten at-grade ingress/egress (I/E) access points are proposed in each direction along the Project corridor:

- Mountain Avenue
- 6<sup>th</sup> Street
- Haven Avenue
- Etiwanda Avenue
- Citrus Avenue
- Cedar Avenue
- Pepper Avenue
- Tippecanoe Avenue
- California Street (transition from 2 to 1 Express Lane)
- Orange Avenue (weave zone)

Except for the California Street and Orange Avenue I/E access points, all other access points are proposed as a combined I/E weave lane where an additional weave or speed change lane is provided. At the California Street I/E access point, separate I/E access is provided in the eastbound direction where the No. 1 eastbound Express Lane continues through the access area, while the No. 2 Express Lane becomes a general purpose lane before a separate ingress opening is provided downstream. In the westbound direction, the No. 2 Express Lane is opened up just upstream of the California Street I/E access point, essentially operating as a weave lane at the California I/E access point. The Orange Avenue I/E access point is proposed as a weave zone in both directions.

## **Alternative 3 Local Street Improvements**

Eight arterial streets crossing over I-10 would be reconstructed to accommodate the I-10 improvements, as listed below:

- San Antonio Ave
- Euclid Avenue
- Sultana Avenue
- Campus Avenue
- 6<sup>th</sup> St Avenue
- Vineyard Avenue
- Richardson Street
- Tennessee Street

Three arterials parallel to I-10 would be modified as part of the proposed Project improvements:

- Palo Verde Street between Mills Avenue and Monte Vista Avenue
- 7<sup>th</sup> Street between Euclid Avenue and Euclid Avenue westbound hook ramps intersection
- J Street between 3<sup>rd</sup> Street and Pennsylvania Avenue (near Rancho & Colton OH)

### **Alternative 3 Railroad Involvement**

Five railroad crossings over or under I-10 would be impacted by the proposed freeway widening:

- UPRR Kaiser Spur OH (widen)
- UPRR Slover Mountain UP (replace)
- UPRR Colton Crossing OH (widen)
- UPRR Pavillion Spur OH (abandon)
- BNSF West Redlands OH (widen)

### **Alternative 3 Structure Improvements**

Alternative 3 would necessitate replacement of 12 structures, widening of 43 structures, partial reconstruction of four structures, and construction of tie-back walls at six structures. Four structures are planned to be abandoned in place.

### **Alternative 3 Drainage Improvements**

Several drainage structures along the Project corridor would be improved as part of the proposed Project.

#### **2.2.4 Alternative Considered but Rejected from Further Consideration**

Four design alternatives were developed for the proposed improvements at the Euclid Avenue Overcrossing. Of those four design alternatives, Options 1 and 2 were rejected from further consideration.

##### **2.2.4.1 Option 1**

The proposed improvements for Option 1 consist of five northbound through lanes and a single exclusive right-turn lane at the approach to the eastbound I-10 ramp intersection, which spans the east side of Euclid Avenue between the freeway and Deodar Avenue to allow for storage. In order to construct Option 1, ROW impacts would occur on the east side of Euclid Avenue between I-10 and Deodar Street in the City of Ontario. Option 1 was rejected from further consideration due to historic preservation concerns.

##### **2.2.4.2 Option 2**

The proposed improvements for Option 1 consist of five northbound through lanes and a single exclusive right-turn lane at the approach to the eastbound I-10 ramp intersection, which spans the east side of Euclid Avenue between the freeway and Deodar Avenue to allow for storage. In order to construct Option 1, ROW impacts would occur on the east side of Euclid Avenue between I-10 and Deodar Street in the City of Ontario. The ROW impacts for Option 2 are less than Option 1. However, Option 2 was also rejected from further consideration due to historic preservation concerns.

## **2.3 AREA OF POTENTIAL EFFECTS**

Consistent with Caltrans policies, general cultural resource practices, and the First Amended Section 106 Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and Caltrans regarding compliance with Section 106 of the National Historic Preservation Act, as it pertains to the administration of the Federal-Aid Highway Program in California (PA) executed January 1, 2014, the APE for potential direct impacts was established as the Project footprint plus a 50-foot buffer. The direct Project footprint includes all construction easements, access routes, staging, and construction areas. This Area of Direct Impact (ADI) became the study area used for archaeological studies. The APE for potential indirect impacts was generally established as the legal parcel adjacent to where potential direct impacts would occur or within a 500-foot buffer zone on large parcels. Emphasis was given to inclusion of properties that front on or face I-10. The APE was extended where bridges are due to be modified as part of this Project, and also includes areas of Army Corps of Engineers (ACOE) jurisdictional areas. The indirect study area became the architectural study area. See Figure 3, Appendix A of the Historic Property Survey Report (HPSR) prepared for this Project for the APE map book.

In terms of the vertical APE, the construction of the HOV or HOT lanes will generally be confined to previously disturbed sediments that resulted from the original construction and subsequent modification and maintenance of I-10 as well as commercial, residential, and other infrastructure developments. The exceptions may include areas associated with the proposed widening and reconstruction of some of the bridge overcrossings, which have potential for undisturbed native sediments. Proposed bridge reconstructions are not expected to exceed 30 feet in height. Permanent overhead signage would be installed in the eastern end of the Project, which is also not expected to exceed 30 feet in height. Proposed soundwalls and additional vertical elements would be constructed well under this 30-foot threshold.

## **3 SOURCES CONSULTED**

### **3.1 INTRODUCTION**

Various sources were consulted as part of the Project's cultural resource investigation, including cultural resource records and literature housed at the San Bernardino Archaeological Information Center (SBAIC) and the South Central Coastal Information Center (SCCIC). For information pertaining to the local and site-specific history of the Project area, numerous archival resources located throughout California were consulted. Information regarding the prehistory and ethnohistory of the general study area was compiled from synthetic data collected by southern California researchers in the past 15 years. In an effort to gather pertinent information regarding the Native American use of the area and to solicit concerns regarding the Project, the Native American Heritage Commission (NAHC) and Native American individuals and organizations were also consulted. A detailed discussion of the sources consulted and results of these investigations are provided below, as well as in subsequent sections of this Archaeological Survey Report (ASR).

### **3.2 CULTURAL RESOURCE LITERATURE AND RECORDS SEARCH**

Archival research helped determine the location of previously documented cultural resources proximate to the Project and to help establish a context for resource significance. Pre-field survey research included a records search conducted by staff at the SBAIC, on May 7, 2008. An updated records search was conducted by Carrie Chasteen, Æ, in October 2012 and March 2013. An additional records search was conducted at the SCCIC by Ms. Chasteen also in March 2013. San Bernardino County Assessor data was accessed through [www.realquest.com](http://www.realquest.com), which is a real estate data subscription service. National, state, and local inventories of cultural resources were examined to identify local historical events and personages, development patterns, and interpretations of architectural styles.

The following standard sources of information were consulted in the process of compiling this report:

- NRHP web site (<http://www.cr.nps.gov/nr>), through October 2014;
- California Historical Landmarks;
- California Points of Historical Interest;
- City of Ontario List of Designated Historic Landmarks and Historic Districts;
- City of Claremont Public Library;
- City of Pomona Public Library;
- City of Ontario Public Library;
- City of Rancho Cucamonga Public Library;
- City of Fontana public library;
- City of Colton public library;
- California Room, Feldheym Library, San Bernardino;

- Heritage Room, A.K. Smiley Library, Redlands;
- San Bernardino County public library;
- Loma Linda University Library, Heritage Room and Special Collections;
- San Bernardino County Historical Archives;
- City of Redlands General Plan, City Design and Preservation Element; and
- City of Redlands List of Historic Resources, December 13, 2010.

A total of 97 area-specific cultural resource surveys or evaluation investigations and 10 general area overview studies have been conducted within the Project study area (Table 3-1). Of the 97 area-specific investigations, 48 studies bisect the Project APE. These 97 area-specific studies resulted in the identification and documentation of 12 archaeological resources including two prehistoric sites and 10 historical archaeological sites. The two prehistoric archaeological sites, CA-LAN-349 and CA-SBR-3000, were previously recorded within a half-mile radius, but are outside of the Project APE. No previously recorded prehistoric archaeological sites are located within the Project APE. Four previously recorded historical archaeological sites were reported within the Project APE by the SBAIC (Table 3-2). These resources include the following:

- Former site of Kaiser Steel (CA-SBR-4131H). Designated California Point of Historical Interest (CPHI)-71;
- Old Kite Railroad Route (CA-SBR-6847H). The Old Kite Railroad Route was previously recorded as an archaeological site, and portions of the Old Kite Railroad Route reportedly cross through the APE in the City of Redlands;
- Mill Creek *Zanja* (CA-SBR-8092H). Listed in the NRHP in March 1976 and was designated as CHL No. 43; this site has also been designated as Engineering Landmark No. 21 by the Los Angeles Section of the American Society of Civil Engineers. Although portions of the Mill Creek *Zanja* have been recorded as historical archaeological resources, it continues to convey water and meets the definition of a "structure;" therefore, this resource is documented as a historic built environment resource in the HRER being prepared in support of this Project (see Exhibit 3 of the HPSR prepared for this Project); and
- East Redlands Canal (CA-SBR-8546H). Documented as an archaeological resource, and not previously evaluated for NRHP eligibility.

In addition, nine pending historical archaeological sites have been identified within the Project study area. None of these potential resources have been formally recorded onto DPR 523 forms and their locations are largely based on historical references rather than on-site observations. All of the pending historical archaeological resources appear to cross through the Project APE and include:

- An unnamed road (P1074-61H);
- Tenney Ditch (P1063-49H);
- Marias Araminta Ditch (P1063-52H);
- Hunt and Cooley Ditch (P1074-84H);
- Camp Carlton Ditch (P1074-85H);
- Jansen Ditch (P1074-86H);
- Rancheria Ditch (P1074-88H);

- Old Meeks and Daley Ditch (P1074-104H); and
- Sunnyside/South Fork Ditches (PSBR-21-H).

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**Table 3-1**  
**Previous Cultural Resource Studies Conducted within the Project Study Area**

<b>Report No.</b>	<b>Author</b>	<b>Year</b>	<b>Title</b>	<b>In APE</b>	<b>Report Type</b>
1060006	Josephine R. Rumble	1937	History: The Mill Creek <i>Zanja</i> .	Yes	Area Specific
1060273	N. Nelson Leonard III	1975	Santa Ana River Project, Description and Evaluation of Cultural Resources and Appendices: Field Data.	Yes	Overview
1060274	E. Jane Rosenthal	1979	A Cultural Resources Survey of the Proposed Santa Ana River Hiking/Biking Trail in the Prado Flood Control Basin.	Yes	Overview
1060275	Ronald C. Tobey, Terry D. Suss, and Larry Burgess	1977	Historical Resources Survey, Prado Flood Control Basin, San Bernardino and Riverside Counties, California.	Yes	Overview
1060317	Patricia Martz	1976	Description and Evaluation of the Cultural Resources Within Cucamonga Demens, Deer, and Hillside Creek Channels, San Bernardino and Riverside Counties, California.	Yes	Area Specific
1060431	N. Nelson Leonard III, Jim Crowell, and Sheila Mone	1976	Archaeological Impact of Proposed Widening of Mountain View Avenue, Loma Linda.	Yes	Area Specific
1060432	Mone, Sheila, Jim Crowell, and N. Nelson Loenard III	1977	Archaeological Impact of Proposed Construction of a Water Transmission Main, Loma Linda, California.	Yes	Area Specific
1060439	Joseph E. Hearn	1976	Archaeological - Historical Resources Assessment of Bloomington Park and Recreation District - Two Locations.	No	Area Specific
1060492	Ruth D. Simpson, Laverna Arnold Brown, and Joseph Hearn	1977	Archaeological - Historical Resources Assessment of Proposed Bloomington Wastewater Facilities Plan.	Yes	Overview
1060508	Roberta S. Greenwood	1977	Archaeological Resources Survey: West Coast - Mid Continent Pipeline Project, Long Beach to Colorado River.	Yes	Overview
1060557	Joseph E. Hearn	1977	Archaeological - Historical Resources Assessment of Project Site Located on the North Side of Redlands Boulevard and West of California Street in the Bryn Mawr Area.	No	Area Specific
1060574	Stephen R. Hammond and Lois M. Webb	1977	Cultural Resources Survey: Route 30 Between Interstate Route 10 and Arden Avenue, San Bernardino County, California.	Yes	Area Specific
1060600	Joseph E. Hearn	1978	Archaeological - Historical Resources Assessment of Project Site Located on the North Side of Redlands Boulevard and West of California Street in the Bryn Mawr Area.	No	Area Specific
1060647	Joseph E. Hearn	1978	Archaeological - Historical Resources Assessment of Approximately Eight Acres at the Northeast Corner of Redlands Boulevard and Bryn Mawr Avenue: Loma Linda Area.	No	Area Specific
1060711	David Chavez	1978	Cultural Resources Evaluation of the Rialto Tank Farm Location and Associated Pipeline and Pump Station Locations, San Bernardino County, California.	No	Area Specific
1060712	David Chavez	1978	Cultural Resources Evaluation of the Four Corners Pipeline Interconnect Facilities, San Bernardino and Riverside Counties, California.	No	Area Specific
1060713	David Chavez	1978	Cultural Resources Evaluation for the naval Petroleum Reserve No. 1 (Elk Hills) to Rialto Crude Oil Pipeline	No	Area Specific
1060714	David Chavez	1978	Final: Cultural Resources Evaluation for the Rialto Crude Oil Tank Farm to the Four Corners Pipeline, Kern County, California.	No	Area Specific
1060877	Ruth D. Simpson	1979	Cultural Resources Assessment Vineyard Avenue from Fourth Street North to Arrow Highway.	No	Area Specific
1060931	Gerald A. Smith	1980	Cultural Resources Assessment of the West Portion of Assessor's Parcel Number 292-061-11, Redlands Area.	No	Area Specific
1061287	Michael K. Lerch	1982	Cultural Resources Assessment of the Santa Ana Regional Interceptor, Reaches IV-D and IV-E, San Bernardino and Riverside Counties, California	Yes	Area Specific
1061425	Jeffry H. Altschul, Martin R. Rose, and Michael K. Lerch	1984	Man and Settlement in the Upper Santa Ana River Drainage: A Cultural Resources Overview.	Yes	Overview
1061490	Michael Lerch and Edward B. Weil	1985	Cultural Resource Survey: Mission <i>Zanja</i> Creek Flood Control Project, Redlands, California.	Yes	Area Specific
1061499	John Foster and Roberta Greenwood	1985	Cultural Resources Overview: California Portion, Proposed Pacific Texas Pipeline Project.	Yes	Overview
1061535	Clay A. Singer	1985	Archaeological Surface Surveys of Three Proposed Railway connections in Downtown Los Angeles, Los Nietos/Santa Fe Springs, and Colton, California	No	Area Specific

**Table 3-1 (Continued)**  
**Previous Cultural Resource Studies Conducted within the Project Study Area**

<b>Report No.</b>	<b>Author</b>	<b>Year</b>	<b>Title</b>	<b>In APE</b>	<b>Report Type</b>
1061558	David Bixler	1986	Archaeological Site Survey: West Valley Redevelopment Project in the City of Colton	No	Area Specific
1061635	David Bixler	1987	Archaeological Survey: Colton Dune Site	No	Area Specific
1061639	Stephen R. Hammond	1987	Negative Archaeological Survey Report for the construction of additional eastbound on- and off-ramps on Interstate 10 at Monte Vista Avenue, City of Montclair, San Bernardino County.	Yes	Area Specific
1061669	Clay A. Singer and Richael L. Wessel	1987	Cultural Resources Survey and Impact Assessment for Five Areas in the City of Colton, San Bernardino County, California, for the Mr. Vernon Corridor Redevelopment Project	No	Area Specific
1061764	Roger Hatheway	1988	A Windshield Survey and Preliminary Architectural/Historical Inventory of Loma Linda, California.	Yes	Area Specific
1061772	Kevin Hallaran and Karen K. Swope	1988	Environmental Impact Evaluation: An Archaeological Assessment of the Rialto Gateway Project, San Bernardino County, California	No	Area Specific
1061783	David Hornbeck and Howard Botts	1988	Seven Oaks Dam Project: Water Systems.	Yes	Area Specific
1061808	Paul R. Hampson, Jerrel Sorensen, Susan K. Goldberg, Mark T. Swanson, and Jeanne E. Arnold	1988	Cultural Resources Survey, Upper Santa Ana River, California.	No	Area Specific
1061837	Susan Goldberg and Jeanne Arnold	1988	Prehistoric Sites in the Prado Basin, California: Regional Context and Significance Evaluation.	Yes	Overview
1061852	Paul R. Hampson and Mark T. Swanson	1989	Cultural Resources Survey, San Timoteo Wash Flood Control Project	Yes	Area Specific
1062010	Bruce R. Harley	1988	Rev. Juan Caballeria: Historian or Storyteller?: Rethinking the 1810 Dumetz Expedition. San Bernardino County Museum Association Quarterly, 35(2): 1-42.	Yes	Overview
1062030	Carol Kielusiak	1989	Cultural Resources Assessment - SARI, Reaches IV D & E	No	Area Specific
1062156	Jeanette A. McKenna	1990	Report Addendum: A Phase 1 Archaeological Survey of the Proposed Santa Ana Watershed Project Authority (SAWPA) Pipeline Right-of-way, San Bernardino to Colton, San Bernardino, California	Yes	Area Specific
1062232	Peak & Associates	1990	Park 1 -- Cultural Resources Assessment of the San Bernardino County and Riverside County Section of AT&T's Proposed San Bernardino to San Diego Fiber Optic Cable	Yes	Area Specific
1062391	David M. Van Horn	1991	A Phase I Cultural Resource Study of the 4.6-Acre Kaiser Parking Facility in Fontana, San Bernardino County	No	Area Specific
1062412	Kathleen C. Del Chario and Carol R. Demcak	1991	A Cultural Resource Assessment of the Ontario Mills Project Site, City of Ontario, San Bernardino County	No	Area Specific
1062415	Robert J. Wlodarski	1991	Final Report: An Archaeological Survey Report Documenting the Widening and Associated Improvements on Interstate 215 (I-215) From Interstate 10 (I-10) North to State Route 30 (SR-30), City of San Bernardino, San Bernardino County, California	No	Area Specific
1062434	Kathleen C. Del Chario	1991	Addendum to a Cultural Resources Assessment of the Ontario Mills Project Site, City of Ontario, San Bernardino County	No	Area Specific
1062516	California Portland Cement Company	1991	Quality Unsurpassed, 1891-1991: A Century of California Portland Cement Company	No	Area Specific
1062660	Karen K. Swope	1992	Archaeological Investigations on Approximately 240 Acres, Mining and Reclamation, Kaiser Mill Site, Fontana, San Bernardino County, CUP W130-97, as Shown on the Guasti 7.5' Quadrangle	No	Area Specific
1062663	Unknown	Unknown	Unknown	Yes	Area Specific
1062752	Gregory Seymour and David P. Doak	1992	The Santa Ana Regional Interceptor Project SAWPA-SARI Reaches IV D & E: A Cultural Resource Survey of a 18-Mile Right of Way From Mira Loma to Colton, Riverside and San Bernardino Counties, CA.	Yes	Area Specific
1062784	Kevin Hallarn and Christopher Ford	1991	The Gage Canal (Draft Copy of Two Chapters of Unknown Publication)	Yes	Area Specific

**Table 3-1 (Continued)**  
**Previous Cultural Resource Studies Conducted within the Project Study Area**

<b>Report No.</b>	<b>Author</b>	<b>Year</b>	<b>Title</b>	<b>In APE</b>	<b>Report Type</b>
1062795	Paul Hampston, James J. Schmidt, and June A. Schmidt	1991	Cultural Resource Investigation: Cajon Pipeline Project	Yes	Area Specific
1062796	Jeanette A. McKenna	1993	Cultural Resources Investigations, Site Inventory and Evaluations, the Cajon Pipeline Corridor, Los Angeles and San Bernardino Counties	Yes	Area Specific
1062851	Daniel G. Landis and Roberta S. Greenwood	1993	A Cultural Resources Survey for the Chino Basin Groundwater Storage Program, San Bernardino County, California.	Yes	Area Specific
1062853	John Foster, James J. Schmidt, Carmen A. Weber, Gwendolyn R. Romani, and Roberta S. Greenwood	1991	Cultural Resources Investigation: Inland Feeder Project, MWD of Southern California	Yes	Area Specific
1062863	Robert J. Wlodarski	1993	Negative Archaeological Survey Report: Provide High Occupancy Vehicle (HOV) Lanes on Interstate 10 Between Mills Avenue and Interstate 15 08-SBR-10-0.0/9.9	Yes	Area Specific
1062887	James J. Schmidt	1994	Cultural Resource Investigation: City of Colton New Substation and Transmission Facilities.	No	Area Specific
1062889	Robert J. Wlodarski	1993	An Archaeological Survey Report Documenting the Effects of the RCTC I-15 Improvement Project in Moreno Valley, Riverside County to Orange Show Road in the City of San Bernardino, San Bernardino County, California	Yes	Area Specific
1062963	Arda Haenszel	1992	Mormons in San Bernardino. San Bernardino County Museum Association Quarterly, 39(3): 3-39.	Yes	Overview
1062979	Thomas T. Taylor	1993	Archaeological Reconnaissance Survey Report Middle Lugo-Mira Loma 500KV T/L Right-of-Way Between Concourse and Jurupa Avenue, Ontario, CA	Yes	Area Specific
1063137	Donn R. Glenda and Deborah W. Gray	1996	Historic Resources Field Survey of a Parcel on the Southwest Corner of Orange & Pearl Streets in Redlands, CA	No	Area Specific
1063214	James J. Schmidt	1996	Cultural Resources Investigations: CA-SBR-1576, City of Colton, New Substation and Transmission Facilities	No	Area Specific
1063248	Francesca Smith and Robert Wlodarski	1994	Historic Property Survey Report: Provide High Occupancy Vehicle Lanes on I-10 Between the Los Angeles/San Bernardino County Line & I-15 in San Bernardino County, California.	Yes	Area Specific
1063553	Roger D. Mason and Brant A. Brechbiel	1998	Cultural Resources Records Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: CM 167-12 In the City of Upland, California.	Yes	Area Specific
1063555	Janet Ostashay and Leslie Heumann	1998	Historic Property Survey Report: Upland Metrolink Station Enhancement Project.	No	Area Specific
1063574	Philippe Lapin	2000	Cultural Resource Assessment for Pacific Bell Wireless Facility CM 392-01 County of San Bernardino, California	Yes	Area Specific
1063579	Curt Duke	1999	Cultural Resources Inventory for PBMS Facility CM 359-04, County of San Bernardino, California	No	Area Specific
1063580	Curt Duke	2000	Cultural Resource Assessment from PBW Facility CM 359-07, County of San Bernardino, CA	No	Area Specific
1063586	Bruce Love	2000	Ontario to Colton Pipeline, San Bernardino County, CA	No	Area Specific
1063588	Bruce Love and Michael Hogan	2000	Identification and Evaluation of Historic Properties: AT&T Wireless Site PB 20002-115.	Yes	Area Specific
1063591	Shelley Marie Owen	1995	Cultural Resource Record search and Management Plan for the San Sevine Redevelopment Project Area, San Bernardino County, CA	No	Area Specific
1063603	Bruce Love	1998	Installation of Water Pipes Along I-10 Between Colton and Fontana	No	Area Specific
1063605	Shahira Ashkar	2000	Final Cultural Resource Investigation Report for the Williams Communications, Inc. Proposed Fiber Optic Cable System Installation Project, Riverside to San Diego County	No	Area Specific
1063656	Bruce Love	2000	The HUB Project, City of San Bernardino, San Bernardino County, CA	Yes	Area Specific

**Table 3-1 (Continued)**  
**Previous Cultural Resource Studies Conducted within the Project Study Area**

<b>Report No.</b>	<b>Author</b>	<b>Year</b>	<b>Title</b>	<b>In APE</b>	<b>Report Type</b>
1063737	Fred Budinger	2002	A Section 106 Historic Preservation Review of the Proposed Verizon Wireless Judson Unmanned Cellular Telecommunications Site to be Located at 1045 Parkford Drive, Redlands, San Bernardino County, CA	No	Area Specific
1063744	Brant Brechbiel	1998	Cultural Resource Record Search & Literature Review for a Pacific Bell Mobile Services Facility: CM040-01, City of Redlands, CA	No	Area Specific
1063747	Curt Duke	1999	Cultural Resource Assessment for AT&T Wireless Facility C578, County of San Bernardino, CA	No	Area Specific
1063748	Rebecca Waugh and S. Greg Johnson	1998	Archaeological Monitoring & Testing: The Boston Market Parcel, Redlands, CA	No	Area Specific
1063751	Curt Duke	2000	Results of Archaeological Monitoring of an AT&T Wireless Services Facility C578, County of San Bernardino, CA	No	Area Specific
1063860	Melinda Horne and Kevin Halloran	2001	Construction of Eastbound Truck Climbing Lane from Ford Street to Live Oak Canyon Road, San Bernardino county, CA	Yes	Area Specific
1063917	Brant Brechbiel	1998	Cultural Resource Records Search and Literature Review Report for a PBMS Facility: Cm 01-12, in the City of Colton, CA	No	Area Specific
1063932	Curt Duke	2001	Cultural Resource Assessment for AT&T Wireless Facility BC_538a, County of San Bernardino, CA	No	Area Specific
1063952	Curt Duke	2000	Cultural Resource Assessment for Modifications to Pacific Bell Mobile Services Facility CM 011-12, County of San Bernardino, CA	No	Area Specific
1064057	Laurie S. White	2002	Cultural Resource Assessment for Sprint PCS Facility SB54X418E (Service & Supply Center), City of Redlands, San Bernardino County, CA	No	Area Specific
1064058	Michael Dice	2002	Revised Records Search Results for Sprint PCS Telecommunications Facility SB38XC926B (Stow-Away Storage), 1519 W. Lugonia, Redlands, San Bernardino County, CA	No	Area Specific
1064061	Donn R. Glenda	2003	612 Lawton, Redlands, CA, Archaeological Monitoring Results	No	Area Specific
1064098	Michael Dice	2003	Cultural Records Search and Site Visit for Sprint Telecommunications Facility LA35XC935H (Tree Top), 9185 Monte Vista Ave, Montclair, San Bernardino County, California.	No	Area Specific
1064158	Curt Duke	2001	Cultural Resource Assessment AT&T Wireless Facility No. D115 San Bernardino County, California.	Yes	Area Specific
1064166	Deborah McLean	1999	I-10 Interchange at Etiwanda Ave	Yes	Area Specific
1064172	Lorna Billat	2003	Proposed Cell Tower Project: Ontario Mills (CA-6686A).	No	Area Specific
1064258	Unknown	Unknown	Unknown	Yes	Area Specific
1064334	Unknown	Unknown	Unknown	Yes	Area Specific
1064510	Marnie Aislin-Kay	2005	Cultural Resource Records Search and Site Visit Results for Cingular Telecommunications Facility Candidate CM-167-01 (ES-010-01) California Mini Storage, 1326 West 7th Street, Upland, San Bernardino County, California.	Yes	Area Specific
1064671	Michael Dice	2005	Cultural Resource Records Search and Site Visit Results for the Proposed Ontario Airport TIS Transmitter Site, located near Parking Lots D and F of the Ontario International Airport, Ontario, San Bernardino County, California.	No	Area Specific
1064678	Bai Tang, Michael Hogan, Deirdre Encarnación, John J. Eddy, and Daniel Ballester	2005	Historical/Archaeological Resources Survey Report: San Antonio Channel (West Edison) Recycled Water Pipeline Project in the Cities of Montclair and Ontario, San Bernardino County, California.	Yes	Area Specific
1065420	Unknown	Unknown	Unknown	Yes	Area Specific
1065483	Jeanette A. McKenna	2006	A Phase I Cultural Resources Investigation For The Bates Specific Plan Project Area On Haven Avenue in the City of Ontario, San Bernardino County,	Yes	Area

**Table 3-1 (Continued)**  
**Previous Cultural Resource Studies Conducted within the Project Study Area**

<b>Report No.</b>	<b>Author</b>	<b>Year</b>	<b>Title</b>	<b>In APE</b>	<b>Report Type</b>
1065876	Bai Tang and Michael Hogan	2007	California. Identification and Evaluation of Historic Properties: San Antonio Channel (West Edison) Recycled Water Pipeline Project Addition in the Cities of Ontario and Montclair, San Bernardino County, California.	Yes	Specific Area
1065877	Bai Tom Tang	2007	Historical/Archaeological Resources Survey San Antonio Channel Recycled Water Pipeline Project Alternatives/Extensions, Cities of Ontario and Montclair, San Bernardino County.	Yes	Specific Area
1066072	Marnie Aislin-Kay	2008	Cultural Resource Records Search Results for Royal Street Communications California LLC Candidate LA0726S (Ontario Corporate Center), 430 North Vineyard Avenue, Ontario, San Bernardino County, California.	Yes	Specific Area
1066516	Ashkar Shahira	1999	Cultural Resources Inventory Report for Williams Communications, Inc. Proposed Fiber Optic Cable System Installation Project, Los Angeles to Riverside, Los Angeles and Riverside Counties, California.	Yes	Specific Area
1066523	Wayne Bonner and Sarah A. Williams	2009	Cultural Resources Records Search and Site Visit Results for AT&T Mobility, LLC Candidate LSANCAD115 (USID 16455), 410 Sequoia Avenue, Ontario, San Bernardino County, California.	Yes	Specific Area
1066666	Bai Tom Tang and Michael Hogan	2009	Identification and Evaluation of Historic Properties: Northwest Recycled Water System Project, Cites of Rancho Cucamonga, Upland, and Ontario, San Bernardino County, California.	Yes	Specific Area
1066667	Bai Tom Tang and Michael Hogan	2010	Identification and Evaluation of Historic Properties: Northwest Recycled Water System Project, Cities of Rancho Cucamonga, Upland, and Ontario, San Bernardino County, California.	Yes	Specific Area
1067121	Cindy L. Baker and Mary L. Maniery	2007	Cultural Resource Inventory and Evaluation of U.S. Army Reserve 63D Regional Readiness Command Facilities Contract No. W912C8-05-P-0052.	No	Specific Area
LA-2932	Robert J. Wlodarski	1993	Negative Archaeological Survey Report: Provide High Occupancy Vehicle (HOV) Lanes on Interstate 10 (I-10) From the Junction of State Route 57 (SR 57/Interstate 610 (I-210) in the City of Pomona to the Los Angeles/San Bernardino County Line 07-LA-I10/P.M. 41.7/48.3.	Yes	Specific Area
LA-3779	Francesca Smith	1994	Historic Property Survey Report: Provide High Occupancy Vehicle Lanes on Interstate 10 Between SR 57/I-210 and the Los Angeles County/San Bernardino County Line in Los Angeles County 07-LA-10-41.7/48.3.	Yes	Specific Area
LA-5925	Francesca Smith	1994	Historic Property Survey Report: Provide High Occupancy Vehicle Lanes on Interstate 10 Between SR 57/I-210 and the Los Angeles County/San Bernardino County Line in Los Angeles County 07-LA-10-41.7/48.3.	Yes	Specific Area
LA-7915	Wayne H. Bonner	2006	Cultural Resource Records Search Results and Site Visit for Sprint Nextel Candidate LA37XC525E (Indian),1935 Indian Hill Boulevard, Pomona, Los Angeles County, California.	No	Specific Area
LA-8300	Janet Hansen	2006	Determination of Eligibility for the Proposed Interchange Project on Interstate 10 and Cedar Avenue in Bloomington, San Bernardino County, CA.	Yes	Specific Area



**Table 3-2**  
**Known and Pending Archaeological Resources Located within the Project Study Area**

Primary/ Pending Number	Trinomial	Component	Proximity to APE <sup>1</sup>	Description
	CA-LAN-349	Prehistoric	0.50 mi	Shell midden
P-36-003000	CA-SBR-3000	Prehistoric	0.45 mi	Ground stone artifacts
P-36-004131	CA-SBR-4131H	Historic	Within APE	Kaiser Steel Mill
P-36-004314	CA-SBR-4314H	Historic	300 ft (91 m)	Slover Mountain
P-36-005313	CA-SBR-5313H	Historic	130 ft (40 m)	Redway House Site
P-36-006069	CA-SBR-6069H	Historic	250 ft (76 m)	Flood Control Gate System
P-36-006847	CA-SBR-6847H	Historic	Within APE	Old Kite Railroad Route
P-36-007976	CA-SBR-7976H	Historic	70 ft (21 m)	Portland Cement “Mill A” Site
P-36-008092	CA-SBR-8092H	Historic	Within APE	Mill Creek <i>Zanja</i>
P-36-008546	CA-SBR-8546H	Historic	Within APE	East Redlands Canal
P-36-012013	CA-SBR-12013H	Historic	250 ft (76 m)	Refuse disposal site
P-36-012014	CA-SBR-12014H	Historic	300 ft (91 m)	Refuse disposal site
P1063-49H		Historic	Within APE	Tenney Ditch
P1063-52H		Historic	Within APE	Marias Araminta Ditch
P1074-61H		Historic	Within APE	Unnamed Road
P1074-84H		Historic	Within APE	Hunt and Cooley Ditch
P1074-85H		Historic	Within APE	Camp Carlton Ditch
P1074-86H		Historic	Within APE	Jansen Ditch
P1074-88H		Historic	Within APE	Rancheria Ditch
P1074-104H		Historic	Within APE	Old Meeks and Daley Ditch
PSBR-21-H		Historic	Within APE	Sunnyside/South Fork Ditches

<sup>1</sup> mi = miles; ft = feet; m = meters.

In addition to the studies that are listed in Table 3-1, several cultural resource assessments have been conducted as part of improvements to I-10 in the vicinity or within the Project APE. In March 1998, a Negative Historic Property Survey Report (NHPSR) was prepared for the proposed reconstruction of the Riverside Avenue Interchange along I-10 from PM 30.1 to PM 33.5 (State of California Department of Transportation 1998). In May 2004, a revised NHPSR First Supplemental was prepared for the revised proposed reconstruction of the Riverside Avenue Interchange along I-10 from PM 18.17 to PM 21.62 (LSA Associates, Inc. 2004). These studies found that the only cultural resources located within or adjacent to the Project’s APE qualified for treatment under the December 20, 1989 “Memorandum of Understanding Regarding Evaluation of Post-1945 Buildings, Moved Pre-1945 Buildings, and Altered Pre-1945 Buildings”, were bridges listed as Category 5 (Ineligible for NRHR listing) in the Caltrans Historic Highway Bridge Inventory, or were exempt from evaluation under the 2004 Section 106 Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and Caltrans. No historic properties were documented in the Project APE a result of these studies.

An NHPSR was also prepared for the proposed mixed-flow lane project in each direction of I-10 between the I-10/SR 38 separation at Orange Street to 0.2 mile east of Ford Street in the City of

Redlands, San Bernardino County, California (State of California Department of Transportation 2003). This study determined that the only cultural resources present within or adjacent to the Project's APE were bridges listed as Category 5 (Ineligible for NRHR listing) in the Caltrans Historic Highway Bridge Inventory. No historic properties were documented as a result of this study.

A HPSR was prepared for the I-10/Cedar Avenue Interchange Project (PM 17.08/19.3) (LSA Associates, Inc. 2006). Four cultural resources (Bloomington School, two bridges, and the Union Pacific Railroad) were identified by the study within the Project APE. The Bloomington School was determined eligible for the CRHR but was not eligible for listing on the NRHP; on May 22, 2006, the California State Historic Preservation Officer (SHPO) concurred with Caltrans's determination of ineligibility (see Exhibit 8 of the HPSR). Two bridges were also located within the APE that were included on the California Historic Bridge Inventory as Category 5 (Ineligible for NRHR listing). Finally, a segment of the Union Pacific Railroad was found to lie within the APE; however, as the project had no potential to affect this property, it was not evaluated as part of the study.

### **3.3 ARCHIVAL RESEARCH**

David Earle of Earle and Associates completed archival research to provide contextual data on this historical archaeological site identified during the Phase I survey (see Chapter 5). Specifically, information on the history of land ownership and land use for the parcel were obtained from County Assessor's records at the San Bernardino County Archives. Newspaper material, historic maps, aerial photos, and other publications were consulted at the Map Library and the Tomás Rivera Library at the University of California, Riverside. Census information as well as draft card voter registration and date of death information for individuals related to this cultural resource was obtained through computer databases accessed from Earle and Associates.

### **3.4 NATIVE AMERICAN CONSULTATION**

In accordance with Section 106 of the National Historic Preservation Act (NHPA), on August 6, 2008, a initial request was made to the Native American Heritage Commission (NAHC) for a review of the Sacred Lands File (SLF) to determine if any known cultural properties are present within or adjacent to the Project APE (HPSR; Exhibit 5). The NAHC responded on August 12, 2008, stating that the SLF failed to indicate the presence of Native American cultural resources within the Project vicinity. The NAHC requested that eight Native American individuals and/or organizations be contacted to solicit any information or concerns regarding cultural resources issues related to the Project (HPSR; Exhibit 5). Initial consultation letters were sent on July 15, 2008 to the following individuals:

- Anthony Madrigal, Jr., Chairperson, Cahuilla Band of Indians
- Joseph Hamilton, Chairman, Ramona Band of Cahuilla Mission Indians
- James Ramos (Chairperson) and Ann Brierty (Policy/Cultural Resources Department), San Manuel Band of Mission Indians
- Anthony Morales, Chairperson, Gabrieleno/Tongva San Gabriel Band of Mission Indians
- Sam Dunlap, Tribal Secretary/Cultural Resources Director, Gabrielino Tongva Nation



- John Tommy Rosas, Tribal Administrator, Tongva Ancestral Territorial Tribal Nation
- John Contreras, Cultural Heritage Program Manager, Morongo Band of Mission Indians
- Goldie Walker, Chairwoman, Serrano Nation of Mission Indians

Follow-up phone calls were conducted on January 6 and 9, 2009. Responses to the Native American consultation efforts were received from four individuals. Mr. Morales, Mr. Contreras, and Ms. Walker all stated that they had no immediate concerns regarding the Project and they would like to be notified if prehistoric/ethnohistoric resources are discovered during ground-disturbing activities related to the proposed Project. Ms. Walker also requested a copy of the final environmental document(s). Mr. Rosas requested that all construction personnel be aware of the NHPA, as amended, and all other applicable laws for cultural resources protection in the event that unanticipated cultural resources are encountered during Project construction. He also stated he would like to be notified if prehistoric or ethnohistoric resources are discovered during ground-disturbing activities related to the proposed Project. The remaining four individuals contacted did not respond to the letter or telephone inquiries.

As a result of expansion of the proposed Project to include consideration of Alternative 3: Two Express Lanes in Each Direction, a supplemental NAHC SLF search was requested on May 28, 2014. On June 13, 2014, the NAHC responded that the SLF failed to indicate the presence of Native American cultural resources within the expanded Project area. The NAHC provided a current Native American contact list and requested that the 11 Native American individuals and/or organizations be contacted to solicit any information or concerns regarding cultural resources issues related to the Project (HPSR; Exhibit 5). Supplemental consultation letters were sent on July 2, 2014 to the following individuals:

- Paul Macarro, Cultural Resources Manager, Pechanga Band of Mission Indians
- William Madrigal, Jr., Cultural Resources Manager, Morongo Band of Mission Indians
- Joseph Hamilton, Chairman, Ramona Band of Cahuilla Mission Indians
- Lynn Valbuena, Chairwoman, San Manuel Band of Mission Indians
- Daniel McCarthy, Director of CRM Department, San Manuel Band of Mission Indians
- Anthony Morales, Chairperson, Gabrielino/Tongva San Gabriel Band of Mission Indians
- Sandonne Goad, Chairperson, Gabrielino/Tongva Nation
- Sam Dunlap, Tribal Secretary/Cultural Resources Director, Gabrielino Tongva Nation
- Ernest H. Siva, Elder, Morongo Band of Mission Indians
- Goldie Walker, Chairwoman, Serrano Nation of Mission Indians

Follow-up phone calls were conducted on July 23 and 29, 2014. Five responses were received as a result of these supplemental consultation efforts. Mr. Siva stated he had no comments or concerns regarding the proposed Project. Ms. Walker requested that if any cultural resources or human remains are encountered that may be related to the Serrano Nation, that the tribe should be contacted. Mr. Morales stated that during construction, areas of ground disturbance should be spot-checked for archaeological resources; he requested that if Native American archaeological remains were encountered during construction, Caltrans should contact the appropriate Native American groups. Ms. Brierty stated that the San Manuel Band of Mission Indians had concerns regarding Native American resources that may be located in the portion of the I-10 corridor east

of San Timoteo Wash. She noted several Native American resources may be found south of the I-10 corridor in this area including the Mission *Zanja*. Ms. Brierty also stated that the San Manuel Band of Mission Indians had concerns regarding the Native American resources known as the ethnohistoric village of Guachama, the San Bernardino Asistencia, and Crystal Springs Ranch (CA-SBR-2316; P-36-02316)<sup>1</sup>, which contains prehistoric remains. Ms. Brierty stated that given the cultural sensitivity of these areas, a Native American monitor should be present during ground-disturbing activities. She requested that the tribe be contacted if there are any inadvertent discoveries during construction. In addition, Ms. Brierty stated that San Manuel should be given copies of all the relevant environmental documents and technical reports associated with the Project and that Caltrans should initiate government-to-government consultation with the tribe. Finally, William Madrigal, Jr. of the Morongo Band of Mission Indians called and asked if any culturally significant resources had been found in the Project area. He also requested that Caltrans initiate government-to-government consultation with the Morongo Band of Mission Indians.

In response to the concerns raised by Ms. Brierty (San Manuel), it was determined that the Mission *Zanja* crosses the APE in the City of Redlands, but will not be directly affected by this Project because the I-10 corridor crosses over the *Zanja* on a bridge and no improvements are planned at this location. Caltrans will monitor construction to ensure that there are no inadvertent impacts to the *Zanja*. Additionally, the village of Guachama, the Asistencia, and Crystal Springs Ranch (CA-SBR-2316; P-36-02316) are all located outside of the APE for the project and will not be affected.

Gary Jones, Caltrans District 8 Native American Coordinator, initiated formal government-to-government Native American consultation with Daniel F. McCarthy, Director of the Cultural Resources Management Department of the San Manuel Band of Mission Indians, and William Madrigal Jr., Cultural Heritage Program Coordinator, Cultural Resources Management Department, of the Morongo Band of Mission Indians, on November 12, 2014. Copies of the draft ASR were submitted to Mr. McCarthy and Mr. Madrigal for review and comments were requested. No comments were received from Mr. McCarthy. A follow-up email from Mr. Jones was sent on January 27, 2015 to notify Mr. McCarthy that Caltrans is assuming the tribe has no comments on the Project and that Caltrans is moving forward with the Section 106 process. A follow-up email was sent on January 27, 2015 to Denisa Torres of the Morongo Band of Mission Indians to inform her of previous government-to-government consultation efforts with Mr. Madrigal and to request comments on the Project from the tribe. No comments were received. An additional follow-up email was sent to Ms. Torres on January 28, 2015 to inform her that Caltrans is assuming she has no comments on the Project and that Caltrans is moving forward with the Section 106 process. Copies of the final ASR will be sent to these tribal representatives when they are transmitted to the Office of Historic Preservation for review by the State Historic Preservation Officer.

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<sup>1</sup> The Crystal Springs Ranch site (CA-SBR-2316; P-36-02316) consists of a prehistoric artifact scatter and the historical remains of the Heron homestead. The resource was not identified during the records search of the Project study area as this resource is located more than a half-mile from the APE. Project activities in this area will be confined to the existing ROW and will consist of pavement restriping. No ground disturbance is expected to occur within the vicinity of the cultural resource.

Exhibit 5 in the HPSR lists the Native American individuals/organizations that were contacted in 2008 and 2014 and their subsequent responses, and Exhibit 5 of the HPSR contains the logs of the telephone conversation records.

### **3.5 PUBLIC CONSULTATION**

On August 5, 2014, Caltrans and AEC held a focus meeting with members of the Redlands Conservancy to discuss their concerns regarding the Project. During the meeting, Vice President Donn Grenda mentioned that intact subsurface historical archaeological features, such as privies and trash pits, may be present in the near Orange Street. This area comprises the historic core of the City of Redlands with development of the area dating back to the late 19<sup>th</sup> century. Although concern was raised over the Project's potential to impact buried historical deposits during construction, no ground-disturbing activities are proposed in this area and Project related activities are limited to restriping existing lanes. There is therefore no potential for encountering buried archaeological deposits at this location.

Other concerns were related to the Crystal Springs Ranch site, the Redlands Canal, and the Mill Creek Zanja. As discussed in the footnote on the previous page, the Crystal Springs Ranch site is outside the Project APE, the Redlands Canal was not located and is presumed outside of the Project APE, and the Mill Creek *Zanja* is discussed in the HRER (Exhibit 3 of the HPSR) and FOE being prepared for this Project.

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## 4 BACKGROUND

### 4.1 INTRODUCTION

This chapter describes the environmental and cultural setting of the general Project region to provide a context for understanding the types, nature, and significance of the cultural resources identified within the overall study area. Because the Project APE encompasses an area traditionally utilized by the Cahuilla, Serrano, and Gabrielino Native American cultural groups, the ethnographic cultural setting discusses pertinent aspects of these three groups. The historical cultural setting was gathered from Project-specific data collected from a variety of archival sources consulted in the cities of Redlands and San Bernardino. For purposes of this ASR, the historical setting begins with the first non-Native explorers into southern California and ends at the beginning of the American Period; information regarding the American Period is provided in the Project's Historical Resources Evaluation Report (HRER) (HPSR; Exhibit 3).

### 4.2 ENVIRONMENTAL SETTING

Situated at elevations ranging from approximately 970 feet above mean sea level (amsl) in the City of Ontario to approximately 1,700 feet amsl at the mouth of Reservoir Canyon in Redlands, the Project study area is situated on the San Bernardino Valley floor. Several natural water courses bisect the Project APE and include (from west to east) San Antonio Creek, Day Creek, the Santa Ana River, San Timoteo Wash, and Morey Arroyo as well as several unnamed drainages. For the most part, the natural water courses in the San Bernardino Valley typically have a low flow, but have been known to flood; water becomes more abundant as these creeks funnel into the Santa Ana River, which is seasonal and flows toward the Prado Basin to the west.

Prehistorically, environmental variables influencing archaeological site types and locations have not remained static over the last 11,000 years (the period of confirmed human occupation in California) (Horne 2001a). Regional paleoenvironmental, paleobotanical, and geomorphological investigations suggest that the climate, vegetation, and landscape of the inland southern California region changed dramatically at the end of the Pleistocene from wet and cool conditions to a drier and warmer regime (see Spaulding 2001, Anderson 2001, and Onken 2001). In very general terms, the desert interior would actually have been more productive and more attractive to prehistoric groups than the inland areas during the Early Archaic Period (circa [ca.] 9500–7000 Before Present [B.P.]). By the Middle Archaic Period (ca. 7000–4000 B.P.), however, increased aridity in the desert would have created resource deficiencies, and the inland areas would have become a more suitable habitation location. Effective moisture continued to increase in the inland areas through the Late Archaic (ca. 4000–1500 B.P.) and into the earliest part of the Saratoga Springs Period (ca. 1500–750 B.P.). Marked climatic changes begin around 1060 B.P. with the beginning of persistent drought conditions termed the Medieval Warm. Higher temperatures and decreased precipitation occurred throughout the western United States and continued until about 575 B.P. Both the desert interior and inland areas would have been

adversely affected by these conditions, although the desert would have been more susceptible to these droughts, making the inland areas more attractive to prehistoric peoples. At the end of the Medieval Warm, cooler temperatures and greater precipitation ushered in the Little Ice Age, during which time ecosystem productivity greatly increased along with the availability and predictability of water. The differences between the inland areas and the desert regions would have become less pronounced, making both areas suitable for human habitation.

The climate within the region encompassed by the general Project study area for the I-10 Corridor Project has varied considerably since the onset of the Holocene (ca. 11,000–10,750 B.P.) (Horne 2001a). Southern California's modern climate is classified as Mediterranean, and is characterized by two seasons: a temperate, wet winter and a moderate, dry summer. Precipitation falls primarily during October through March, with the majority of rain occurring from December through February. During the last century, annual precipitation in the San Bernardino Valley has varied from a low of 7.4 inches to more than 37.5 inches, with an average of 13.78 inches (Clarke 1979; Metz 1974). However, precipitation patterns are unpredictable from one year to the next; annual average rainfall figures can be greatly exceeded in some years resulting in disastrous floods, or can only be a small fraction of the average in other years resulting in droughts.

Prior to historical development of the immediate Project vicinity, vegetation in the Project area included representative species of two major plant communities: valley grassland and, in the higher elevations along the hill slopes, sage scrub. Additionally, restricted riparian communities also occurred near springs and along water courses. Depending upon elevation and climate, various floral species from these communities were available from early spring until winter, and the leaves, stems, seeds, fruits, roots, and tubers from many of these plant species formed an important subsistence base for the Native American inhabitants of the study region (Bean and Saubel 1972; Hyde and Elliot 1994). In addition to these sources, the following biotic resource data were compiled from Bean and Vane (2001), Bettinger (1974), Metropolitan (1991), Munz (1974), Spaulding (1997), and Wagner (1998).

Important plant species in the valley grassland community, prior to historical development of the area, may have included rye grass (*Leymus condensatus*), blue grass (*Poa secunda*), bent grass (*Agrostis* spp.), needlegrass (*Stipa* spp.), and three-awn (*Aristida divaricata*) (nomenclature follows Hickman [1993]). At present, the valley grassland community is dominated by exotic species such as filaree (*Erodium cicutarium*), tansy mustard (*Descurainia pinnata*), tumble mustard (*Sisymbrium altissimus*), foxtail fescue (*Vulpia myuros*), barleys (*Hordeum* spp.), wild oats (*Avena* spp.), rye grass (*Lolium* spp.), cheat or brome grass (*Bromus* spp.), vinegar weed (*Trichostema lanceolatum*), and dove weed (*Eremocarpus setigerus*).

Fauna likely to occur in the native valley grassland community consisted of herbivorous and granivorous species tolerant of sparse vegetation cover and burrowing species that required relatively deep, friable soils. Valley grassland communities are preferred by the black-tailed jackrabbit (*Lepus californicus*), pocket gophers (*Thomomys* spp.), and kangaroo rats (*Dipodomys* spp.). Other common species such as the Audubon cottontail (*Sylvilagus audubonii*) made extensive use of valley grasslands, but preferred valley edge areas where vegetative cover is more easily accessible. The Beechey ground squirrel (*Spermophilus beecheyi*) also preferred the

valley edge, as well as any rocky outcrops and knolls on the valley floor. These last two species currently appear to exist in super-abundance as the result of modern human activity which has increased suitable protective cover and den or burrow sites (e.g., abandoned irrigation pipes, road cuts, under buildings, etc.).

Larger mammals found in the valley grassland community may have included carnivores and omnivores preying upon the abundant rodents, particularly the ubiquitous coyote (*Canis latrans*) and badger (*Taxidea taxus*), as well as the long-tailed weasel (*Mustela frenata*), striped skunk (*Musetela frenata*), and gray fox (*Urocyon cinereoargenteus*). Mule deer (*Odocoileus hemionus*) would have been encountered occasionally along the valley edges and near springs, but rarely on the open valley floor. Pronghorn antelope (*Antilocapra americana*), although uncommon in archaeological assemblages and currently extinct within the region, would have been encountered exclusively on the open valley floor and near springs.

The Riversidian sage scrub plant community included important perennials such as California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), black sage (*Salvia melifera*), white sage (*S. apiana*), brittle-bush (*Encelia farinosa*), spiny redberry (*Rhamnus crocea*), yellow bush penstemon (*Penstemon antirrhinoides*), bee plant (*Scrophularia californica*), orange bush monkey flower (*Mimulus longiflorus*), mesa prickly-pear (*Opuntia littoralis*), and valley cholla (*O. parryi*). Additionally, isolated stands of Our Lord's Candle (*Yucca whipplei*) may have also been present.

Fauna common to the Riversidian sage scrub community consisted of species with greater browse and cover requirements and included fewer numbers of granivorous and fossorial (burrowing) mammals owing to the shallow and rocky soils. Among the faunal taxa common in the Riversidian sage scrub community, the black-tailed jackrabbit were common in the more open aspects of sage scrub community, but less common than in the grassland community of the valley floor. Audubon cottontails were probably more common in the sage scrub than in valley grasslands, particularly at the interface between the two habitat types. Brush rabbits (*Sylvilagus bachmani*) were generally uncommon, but may have been found occasionally in the denser aspects of sage scrub community. Wood rats (*Neotoma* sp.) were also common in the sage scrub community around rock outcrops and along drainages, but were virtually absent from the valley grassland community. In addition, pocket gophers were also common, but considerably less so than in the valley grasslands. The Pacific kangaroo rat (*Dipodomys agilis*) occupied the sage scrub community, whereas Stephen's kangaroo rat (*D. stephensi*) and San Bernardino kangaroo rat (*D. merriami parvus*) occupied the valley grasslands and probably occurred in greater numbers than the Pacific kangaroo rat in prehistoric times. Larger mammals found in the sage scrub community included mule deer, coyote, bobcat (*Lynx rufus*), weasel, and striped skunk.

Where water was plentiful, the dominant species of the riparian plant community included willows (*Salix* spp.), cottonwood (*Populus fremontii*), and western sycamore (*Plantanus racemosa*), with an understory of mule fat (*Baccharis salicifolia*), nettle (*Urtica gracilis*), ragweed (*Ambrosia psilostachya*), and smartweed (*Polygonum* spp.), as well as dense stands of the same plant species present in the immediately adjacent plant communities. In marshy or poorly drained areas along the valley floors, species such as cattail (*Typha latifolia*), tule (*Scirpus* spp.), tule potato (*Sagittaria latifolia*), and wire grass (*Juncus* spp.) occurred with

saltbush (*Atriplex* spp.), salt grass (*Distichlis spicata*), smooth tarplant (*Hemizonia pungens* ssp. *laevis*), and pulsey (*Heliotropium curassavicum*).

Other species found in several of the plant communities mentioned above included elderberry (*Sambucus mexicana*), goosefoot (*Chenopodium* spp.), blue dicks (*Dichelostemma capitatum*), Parry's larkspur (*Dephinium parryi*), chia (*Salvia columbariae*), coastal paintbrush (*Castilleja affinis*), common lomatium (*Lomatium utriculatum*), finger-leaved morning glory (*Calystegia macrostegia*), wild onion (*Allium* spp.), night shade (*Solanum xanti*), miniature lupine (*Lupinus bicolor*), silver buckwheat (*Eriogonum elongatum*), wild celery (*Apiastrum angustifolium*), legumes (Fabaceae), golden yarrow (*Eriophyllum confertiflorum*), Mariposa lily (*Calochortus* spp.), and amaranth (*Amaranthus blitoides*).

Faunal species characteristic of the overall study area prior to historical development, particularly the shrub-dominated vegetation communities, included such avifauna as California quail (*Callipepla californica*), western scrub jay (*Aphelocoma coerulescens*), common raven (*Corvus corax*), bushtit (*Psaltiriparus minimus*), wrentit (*Chamaea fasciata*), California thrasher (*Toxostoma redivivum*), California towhee (*Pipilo crissalis*), Bell's sage sparrow (*Amphispiza belli belli*), and California gnatcatcher (*Poliophtila californica californica*). Greater roadrunner (*Geococcyx californianus*) was found both in the valley grassland and sage scrub communities. Common raptors included Great Horned owl (*Bubo virginianus*), burrowing owl (*Athene cunicularia*), turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), and American kestrel (*Falco sparverius*). Reptiles included the coast horned lizard (*Phrynosoma coronatum*), western fence lizard (*Sceloporus occidentalis*), granite spiny lizard (*S. orcutti*), coastal rosy boa (*Lichanura trivirgata rosafusca*), red racer (*Masticophis flagellum*), striped racer (*M. lateralis*), gopher snake (*Pituophis melanoleucus*), California kingsnake (*Lampropeltis getulus*), southern Pacific rattlesnake (*Crotalus viridis*), and northern red-diamond rattlesnake (*C. ruber ruber*). In and adjacent to wetland areas, the Pacific tree frog (*Hyla regilla*), and the western toad (*Bufo boreas*) could be found; the southwestern pond turtle (*Clemmys marmorata*) may also have occurred prehistorically.

Currently, most of the Project vicinity consists of existing highway, ramps, bridge overcrossings, railroad features, and other related transportation improvements. There is also a mixture of commercial, industrial, and residential buildings along the I-10 corridor.

#### **4.3 PREHISTORIC SETTING**

For the most part, it is generally believed that human occupation of the southern California coastal region and the southern California desert regions dates back to at least 10,000 before present (B.P.). Archaeological studies conducted within the general Project vicinity suggest that human occupation of the inland valley regions of southern California may date to as early as 7000 to 9000 B.P. (Goldberg et al. 2001; Horne 2001b; Horne and McDougall 2008). Four broad cultural periods of human settlement and subsistence strategies are believed to have operated in southern California during the past 10,000 years: the Early Holocene Interval (ca. 10,000 to 7500 B.P.); the Middle Holocene Interval (ca. 7500 to 5000 B.P.); the Middle to Late Holocene Interval (ca. 5000 to 1500 B.P.); and the Late Horizon Period (ca. 2000 B.P. to the initial period of European contact).



Both coastal and desert region designations (Wallace 1978; Warren 1980, 1984) for the Early Holocene Interval refer to a long period of human adaptation to environmental changes brought about by the transition from the late Pleistocene to the early Holocene geologic periods. As climatic conditions became warmer and more arid, Pleistocene megafauna perished abruptly between 13,000 and 10,000 B.P. Human populations responded to these changing environmental conditions by focusing their subsistence efforts on the procurement of a wider variety of faunal and floral resources. These early occupants of southern California are believed to have been nomadic, large-game hunters whose tool assemblage included percussion-flaked scrapers and knives; large, well-made stemmed, fluted, or leaf-shaped projectile points (e.g., Lake Mojave, Silver Lake); crescentics; heavy core/cobble tools; hammerstones; bifacial cores; and choppers and scraper planes.

Although sites assigned to the Middle Holocene Interval are similar in many respects, their content, structure, and age can vary. This variability is largely due to geographical differences between the coast and interior. The primary difference between the archaeological assemblages of coastal and inland sites appears to be related to subsistence. Coastal occupants gathered fish and plant resources, and hunting was generally less important (projectile points are rare). The inland occupants primarily collected hard seeds and hunted small mammals; therefore, projectile points are more common in inland assemblages. King (1967:66–67) suggests that the coastal sites probably represent more permanent occupations than are found in the interior, since coastal inhabitants were sustained by more reliable and abundant food resources. A more mobile subsistence round was likely necessary for inland inhabitants. It is also possible that inland and coastal sites of this period represent seasonal movement by the same groups of people.

Overall, the general settlement-subsistence patterns of the Middle Holocene Interval were exemplified by a greater emphasis on seed gathering, with coastal and inland sites exhibiting shallow midden accumulations, suggesting seasonal camping. Midden accumulation at desert locals dating to this period is generally rare. Based on the distribution of sites assigned to this period, aboriginal groups likely followed a modified, central-based wandering pattern with an inferred shift toward enhanced logistical settlement organization (cf. Binford 1980; Warren 1968). In this semi-sedentary pattern, a base camp was occupied during a portion of the year, while satellite camps were occupied by smaller groups of people to exploit seasonally available floral resources such as grass seeds, berries, tubers, and nuts. The exploitation of terrestrial faunal resources was also an important economic pursuit, especially in the inland and desert regions of southern California. The degree of population sedentism was based upon the availability of reliable water sources and the abundance of exploitable resources in the general locale; coastal occupants of this period are believed to have practiced a higher degree of sedentism than other southern California groups because of a more reliable and abundant resource base.

During the Middle to Late Holocene Interval, the subsistence base in southern California broadened. The technological advancement of the mortar and pestle may indicate the use of acorns, an important storable subsistence resource. Hunting presumably also gained in importance. An abundance of broad, leaf-shaped blades and heavy, often stemmed or notched projectile points have been found in association with large numbers of terrestrial and aquatic mammal bones. Other characteristic features of this period include the appearance of bone and

antler implements and the occasional use of asphaltum and steatite. Most chronological sequences for southern California recognize the introduction of the bow and arrow by 1500 B.P., marked by the appearance of small arrow points and arrow shaft straighteners.

In general, cultural patterns remained similar in character to those of the preceding horizon. However, the material culture at many coastal sites became more elaborate, reflecting an increase in sociopolitical complexity and increased efficiency in subsistence strategies (e.g., the introduction of the bow and arrow for hunting). The settlement-subsistence patterns and cultural development during this period are not well understood because of a lack of large amounts of data; however, the limited data do suggest that the duration and intensity of occupation at the base camps increased, especially toward the latter part of this period. However, through time, southern California populations became increasingly diversified and economically specialized, especially among the coastal southern California cultures. Adaptation to various ecological niches and further population growth typify the subsequent periods of cultural history in southern California. This subsistence orientation, characterized by a heavy dependence on both hunting and plant gathering, continues into the historic period.

The Post-1500 B.P. Interval (Late Holocene to the time of Spanish settlement [approximately 1769]) is characterized by a reliance on the bow and arrow for hunting, along with the use of bedrock mortars and milling slicks. Late prehistoric coastal sites are numerous. Diagnostic artifacts include small triangular projectile points, mortars and pestles, steatite ornaments and containers, perforated stones, circular shell fishhooks, and numerous and varied bone tools, as well as bone and shell ornamentation. Elaborate mortuary customs, generous use of asphaltum, and the development of extensive trade networks are also characteristic of this period. During the latter half of this period in the southern coastal region, pottery, ceramic smoking pipes, cremation urns, rock paintings, and some European trade goods were added to the previous cultural assemblage (Meighan 1954). Increased hunting efficiency (through use of the bow and arrow) and widespread exploitation of acorns and other hard nuts and berries (indicated by the abundance of mortars and pestles) provided reliable and storable food resources. This, in turn, promoted greater sedentism. Related to this increase in resource utilization and sedentism are sites with deeper middens, suggesting central-based wandering or permanent habitation. These would have been the villages, or rancherias, noted by the early non-native explorers (True 1966, 1970). By about 500 B.P., strong ethnic patterns developed among native populations in southern California. This may reflect accelerated cultural change brought about by increased efficiency in cultural adaptation and diffusion of technology from the central coastal region of California and the southern Great Basin (Douglas et al. 1981:10).

#### **4.4 ETHNOGRAPHIC SETTING**

Archival and published reports suggest that the Project study area is situated along the fringes of territories traditionally assigned to the Cahuilla, Serrano, and Gabrielino Native American cultural groups. The Cahuilla, Serrano, and Gabrielino were a part of cultural nationalities speaking languages belonging to the Takic branch of the Shoshonean family, coming from the larger Uto-Aztecan language stock. A brief review of the ethnography of these three groups is provided below.

#### 4.4.1 Cahuilla

Ethnographically, Cahuilla territory spanned from the summit of the San Bernardino Mountains in the north to Borrego Springs and the Chocolate Mountains in the south, a portion of the Colorado Desert west of Orocopia Mountain to the east, and the San Jacinto Plain near Riverside and the eastern slopes of Palomar Mountain to the west (Bean 1978). Based on this description, the Project study area appears to be located within the northwestern border of Cahuilla territory. Indeed, Strong (1929:150) states that several clans of the Mountain Cahuilla, under the leadership of Juan Antonio, moved from their mountain homes first to *Pulatana* in the vicinity of Riverside, then called Jurupa. Later, their settlement was moved to a village known as *Sahatapa* in the San Timoteo Canyon area near El Casco, immediately south of the Project vicinity.

Prior to the Mission Period (i.e., prior to 1769), the Cahuilla had nonpolitical, nonterritorial patrimoieties that governed marriage patterns as well as patrilineal clans and lineages. The Cahuilla had political-ritual-corporate units (clans) composed of three to 10 lineages, distinctly different, named, claiming a common genitor, and with one lineage recognized as the founding lineage (Bean 1978:580; Bean and Vane 2001:V.A-2). Clans owned a large territory in which each lineage owned a village site and specific resource areas. Clan lineages cooperated in large communal subsistence activities (e.g., animal drives and hunts, controlled burning) and in performing rituals.

For the most part, the Cahuilla were hunting, collecting, and harvesting peoples. Their subsistence patterns can be attributed mostly to their environments. Clans were apt to own land in valley, foothill, and mountain areas, which provided them with the resources of many different ecological niches. Individual lineages or families owned specific resource areas within the clan territory. Although any given village had access to less than the full panoply of necessary resources, briskly flourishing systems of trade and exchange gave them access to the resources of their neighboring villages and of distant peoples. Rules that forbade marriage to anyone related within five generations or belonging to the same moiety ensured that everyone had relatives living in many ecozones. This was an important arrangement because relatives were invited to ceremonies. The ceremonial exchange of gifts between hosts and guests under the direction of the chiefs and shamans at such events provided a way for drought-stricken groups to get food in exchange for treasure goods. Thus, oscillations in the subsistence goods supply were offset by “banking” human effort in the production of treasure goods.

As in most of California, acorns were a major staple, but the roots, leaves, seeds, and fruit of many other plants also were used. Fish, birds, insects, and large and small mammals were available. Mountain sheep (*Ovis canadensis*), deer, and pronghorn were some of the large mammals hunted. Now extinct in this part of California, pronghorn were once numerous in the area (Harrington n.d.). The San Jacinto Valley, south and southeast of the Project area, was on the Pacific Flyway; hence, ducks, geese, and other migratory birds would land on the small lakes and could be caught. Mountain lion, black bear, grizzly bear, deer, and wild boar were also hunted by the Cahuilla in historical times (Quimby 1975:37).

To gather these food resources and to prepare them for eating, the Cahuilla had an extensive inventory of equipment. The throwing stick and bow and arrow were the most important hunting tools for killing game, but snares, traps, slings, decoys, disguises, and hunting blinds also were

part of the hunting technology. Many villages had access to creeks and rivers, so nets, traps, spears, hooks and lines, and poisons were used to catch fish. The Cahuilla also had access to ancient Lake Cahuilla until its last desiccation, about 400 to 450 years ago, and during subsequent brief stands during the mid-1800s. Gathering required few tools: poles for shaking pine nuts and acorns from the trees, cactus pickers, chia hooks, seed beaters, digging sticks and weights for digging sticks, and pry bars. Material culture items associated with transportation were mainly used to move food and included burden baskets, carrying nets, game bags, and saddle pads; stretchers and cradle boards were used to carry humans.

Food was usually stored in large storage baskets. Pottery ollas and baskets treated with asphaltum also were used to store and carry water and seeds. Wood, clay, and steatite were used to make jars, bowls, and trays. Skin and woven grass were used to make bags. Food processing required hammers and anvils for cracking nuts; mortars and pestles for grinding acorns and other hard nuts and berries; manos and metates for grinding seeds and berries; winnowing shells and baskets; strainers; leaching baskets and bowls; knives made of stone, bone, wood, and carrizo cane; bone saws; and racks made of wooden poles used to dry fish. Basket mortars, made by using asphaltum to attach an open-bottomed basket to a mortar, were important for food processing. Food was served in wooden and gourd dishes and cups and in basket bowls that were sometimes tarred. Wood, shell, and horn were used for spoons.

Cahuilla shelters were often made of brush, although some were wattled and plastered with adobe mud. In prehistoric times, these shelters are believed to have been dome-shaped; during post-contact times they tended to be rectangular. The entryway into the shelter was usually covered with hides or woven mats, and one or more holes were left open at the roof peak for smoke to escape. Most of the Cahuilla's domestic activities were performed outside within the shade of large, expansive ramadas. Within each village, the chief's house was the largest and was usually next to the ceremonial house. Each village also had a men's sweat house and several granaries (Bean 1978:578; Bean and Vane 2001:VI.D-1).

#### **4.4.2 Serrano**

Historically, the Project study area also appears to be located along the southern fringe of Serrano territory. Altschul et al. (1984) have provided a useful overview of the ethnographic land-use patterns, social organization, and early ethnohistorical interactions in Serrano territory; pertinent aspects of this overview, along with ethnographic information obtained primarily from Strong (1929), Gifford (1918), Kroeber (1925), Bean and Smith (1978), and Harrington (Bean et al. 1981) are presented below.

The Serrano occupied the territory of the San Bernardino Mountains east to Mount San Gorgonio, the San Gabriel Mountains west to Mount San Antonio, and portions of the desert to the north and the fringe of the San Bernardino Valley to the south (Kroeber 1925:615–616). Numbering no more than perhaps 1,500 people, the Serrano were scattered over a rugged, expansive landscape. The Serrano's most intensive cultural contacts were with the Pass Cahuilla, who occupied the territory to the southeast, and the Gabrielino, who occupied the lands westward to the Pacific coast (McDougall n.d).

Serrano clans were politically autonomous, although linked by ceremonial ties to other clans and peoples of other tribal groupings (i.e., the Cahuilla and Gabrielino). Each Serrano clan had a hereditary leader, or *kika*, and an assistant who was a ceremonial leader, or *paha* (Strong 1929:17–18). These individuals were central to the ritual life of the Serrano, providing leadership during yearly ceremonial periods. Kroeber (1925:617) indicates that villages were generally located where streams emerged from the foothills. Bean et al. (1981:85–86) are considerably more precise in their descriptions of Serrano village and camp locations. Groups of lineages lived in villages at the valley margins in the winter and in smaller encampments at higher elevations in the summer. Proximity to water sources and adequate arrays of resources predictably dictated settlement location choices. Localities rich in oaks, pinyon, yucca, agave, or seasonal migratory fowl, for example, were favored for population convergence at peak “harvest” times. Streamside areas, canyon mouths by alluvial fans, and flats near springs or lakes were frequently chosen as prime locations, with avoidance of wind and floods, and adequate defensive position also of considerable concern. Additionally, Bean et al. (1981:85) noted that individual homes were quite scattered across the landscape in order to ensure privacy, to the extent that some “villages” covered up to 5 square miles. This clearly has important implications for archaeological interpretations of occupation sites.

Serrano residences were circular, domed, willow-and-tule thatch structures. The home of the *kika* also served as a large ceremonial house, and large, semi-subterranean, earth-covered sweathouses were found immediately adjacent to streams in most villages (Bean and Smith 1978). Subsistence during winter months consisted mostly of reliance on stored foods (acorns, pinyon nuts, mesquite beans) and some fresh meats and greens. In the spring, agave, cacti, greens, and a mix of game provided the bulk of the food resources. Many fruits and seeds became available during the summer months, but perhaps the richest season was autumn, when major harvests of acorns, pinyon nuts, mesquite beans, and screwbeans occurred, and when communal rabbit hunts took place in the context of much feasting and ritual activity (Bean et al. 1981:86–87). In addition to occupation sites and food procurement sites, rock cairns (“offering” places along trails), cupule petroglyph sites, hot springs (sacred areas), sources of lithic materials suitable for the production of stone tools and other artifacts, and trails represent important land uses by the Serrano.

Serrano technology was very similar to neighboring cultural groups, particularly the Cahuilla. Bows and arrows were used commonly for the hunting of large game, and curved throwing sticks, traps, snares, and deadfalls were used for obtaining smaller game and birds. Primary food processing utensils included stone knives, stone or bone scrapers, pottery trays and bowls, baskets, horn and bone spoons and stirrers, mortars (of stone or wood), pestles, manos, and metates. Shells, wood, bone, stone, and plant fibers were used in making a variety of technomic and non-technomic items, including decorated blankets, rabbit skin blankets, awls, arrow straighteners, sinew-backed bows, arrows, fire drills, stone pipes, musical instruments (rattles of turtle or tortoise shell, deer-hoof rattles, wood rasps, bone whistles, bull-roarers, flutes), feathered costumes, mats (for floor and wall coverings), bags and storage pouches, cordage (usually of yucca fiber), and nets (Bean 1962-1972; Benedict 1924; Drucker 1937; Smith and Simpson 1964; Strong 1929).

#### 4.4.3 Gabrielino

During the protohistoric period, most of the Los Angeles and Orange County area was inhabited by the Gabrielino peoples; the Project study area is located near what appears to be the eastern boundary of Gabrielino territory. Strong (1929:150) states that the Cahuilla villages of *Pulatana* in the vicinity of Riverside and *Sahatapa* in the San Timoteo Canyon had probably originally belonged to the Gabrielino (Horne et al. 1999).

It is believed that the total Gabrielino territory covered more than 1,500 square miles and included the watersheds of the Los Angeles River, San Gabriel River, Santa Ana River, and Rio Hondo. The Gabrielino also occupied the islands of Santa Catalina, San Clemente, and San Nicolas. Within this large territory were more than 50 residential communities with populations that ranged from approximately 50 to 150 individuals. Each community consisted of one or more lineages that maintained a permanent geographic territory, which included a permanent settlement and a variety of hunting and gathering areas as well as ritual sites. A typical Gabrielino settlement contained a variety of structures used for religious, residential, and recreational purposes. In the larger communities, a sacred enclosure surrounded by the houses of the chief and other members of the elite community was generally located near the center of the community. Surrounding these structures were the smaller homes occupied by the rest of the community. Other features common at residential sites were sweathouses and level clearings used as playing fields and dance grounds as well as cemeteries (McCawley 1996:32–33).

Gabrielino territory offered a rich and diverse resource base. Subsistence items described in ethnohistorical sources include large numbers of native grass seeds, six or more types of acorns, pinyon pine nuts, seeds and berries from various shrubs, fresh greens and shoots, mule deer, pronghorn, mountain sheep, rabbits and rodents, quail and waterfowl, snakes, lizards, insects, and freshwater fish, plus a wide variety of marine fish, shellfish, and sea mammals in coastal zones. This wealth of resources, coupled with an effective technology and a well-developed trade and ritual system, resulted in a society that was among one of the most materially wealthy and culturally sophisticated cultural groups in California (McCawley 1996:141). The management of food resources by the chief was the heart of the Gabrielino economy; a portion of each day's hunting, fishing, or gathered food resources was given to the chief who was responsible for managing the community's food reserves. Each family also kept a food supply for use in lean times.

The material culture of the Gabrielino is elaborate and in many ways comparable to that of the Chumash. An excellent descriptive source is Blackburn's (1963) compendium of Gabrielino material culture, which is intended for an archaeological audience and exhaustively summarizes Padre Geronimo Boscana's accounts of the Juaneño farther south in the vicinity of San Juan Capistrano, Hugo Reid's 1852 letters to the *Los Angeles Star* (Blackburn 1963), and Harrington's early twentieth-century interviews, among a number of other sources. Shell ornaments and beads, baskets, bone tools, flint weapons and drills, fishhooks, mortars and pestles, wooden bowls and paddles, shell spoons, wooden war clubs, and a variety of steatite items (cooking vessels, comals, ornaments) are among the many artifact types common in descriptions of Gabrielino culture (Blackburn 1963). Highly developed artisanship is particularly evident in the many technomic implements inlaid with shell (using asphaltum) and in the steatite items from production centers on Catalina Island.

Trade was an important element of the Gabrielino economy. While the principal Gabrielino-produced commodity—steatite vessels from centers on Catalina Island—originated well outside the study area, trade in steatite items was conducted throughout local territory and involved external relations with cultural groups beyond Gabrielino borders, including the Cahuilla, Serrano, Luiseño, Chumash, and Mojave. Additionally, *Olivella* shell callus beads, manufactured on the northern Channel Islands by the Chumash and their predecessors, were reportedly used quite frequently as a currency by the Gabrielino and other southern California groups, particularly in situations when bartering methods were inappropriate or ineffective.

In general, the Gabrielino cultivated alliances with other groups and also maintained cult or ritual centers (such as the village *Povongna*, presumed to be located in the vicinity of Long Beach) where trade fairs, mourning ceremonies, and other sorts of social and economic interaction linked villages of many environmental zones into exchange and social partnerships. Strong (1929:98) indicates that there was a “loose ceremonial union” among the Cahuilla, Luiseño, Serrano, and Gabrielino manifested in gifts of shell money sent by all to leaders of clans in which a death had occurred. Blackburn (1976:240) notes that ceremonialism in general provided a context for far-ranging social interaction, especially between the Gabrielino and several neighboring groups, and resulted in strong unity against external enemies. However, Bean and Smith (1978:546) conclude that the Gabrielino peoples quarreled constantly among themselves and that inter-village conflict was frequent and deadly, although rarely extended. Marriage ties usually dictated affiliations during conflicts.

## **4.5 HISTORICAL SETTING**

The historical background of the San Bernardino Valley is best presented by adhering to the familiar divisions of local history which have become standardized in the area literature. Beginning with the European Exploration (Spanish/Mission) Period in 1771, the progression moves rapidly through the poorly documented Mexican (Rancho) Period into American (Anglo) times, marked by the arrival of Mormon scouts in 1850. The Post-Mormon American Period begins with the recall and departure of the Latter Day Saints in 1857, and continues into modern times. The discussion, below, begins with the Contact/Mission Period and the effects this had on the Native American populations in the area, and proceeds through the Mexican (Rancho) Period to the American/Mormon Period. The historical setting of the American Period is provided separately in the Project’s HRER (see Exhibit 3 in the HPSR).

### **4.5.1 European Exploration/Spanish/Mission Period: 1771–1810**

The first direct contact between the Europeans and the Gabrielino is thought to have occurred in 1542 with the arrival of Cabrillo’s small fleet at Santa Catalina Island, and later in 1602 when the Sebastian Vizcaino expedition visited San Clemente and Santa Catalina islands and the mainland near present-day San Pedro (McCawley 1996:207). The Cahuilla and Serrano peoples had little contact with the European explorers during this time. Later in 1769, the Gaspar de Portolá expedition crossed the Gabrielino homeland twice. Mission San Gabriel, the mission that would eventually have the most direct impact on the native inhabitants of the Project study area, was founded on September 8, 1771, at a location near the Whittier Narrows. Because of conflict, recruitment and conversion of the Indians remained slow for the first few years of the mission’s existence. Sometime around 1774, Mission San Gabriel was moved to its present location to

obtain more suitable land for agriculture. A second mission, San Fernando, was established within Gabrielino territory in 1797. Although the Spanish began establishing missions in California in 1769, the Native Americans living within and around the localized study region likely had very little direct contact with the nonnative settlers until the early to mid-1800s (Bean and Vane 2001:MS-7).

Mission San Gabriel, like other California missions, began baptizing people who lived in the immediate vicinity of the mission; however, as time went on, the Mission Fathers went farther and farther away in search of converts. Mission life was highly regimented and contrasted sharply with the southern California traditional Native American lifeway; as a result, colonization had a dramatic and negative effect on Native American society, including fugitivism. For the most part, the young, active, working adults of southern Californian Native American communities were reportedly forcibly brought into Mission San Gabriel and baptized during the 1810s. Consequently, traditional Native American communities were left economically devastated because significant portions of the labor force were removed. This left fewer people to hunt and collect food; to take care of the sick, young, and elderly; to defend territorial rights against other native groups or poachers; and to authenticate the culture's stories and traditions (Bean and Vane 2001:MS-7). Unfortunately, the Native Americans at the missions did not fare much better. Although there was always a reliable source of food and shelter, Native American life at the mission was foreign and often very cruel. Life expectancy for the "converts" was shortened by disease and strenuous labor, and most were forced to abandon their traditional customs, beliefs, and rituals.

Between 1832 and 1834, the Mexican government implemented a series of Secularization Acts that were theoretically designed to turn over the mission lands to the native populations; however, most of this land was taken over by Mexican civilians. Thus, the primary result of secularization was increased fugitivism among the Native American groups (McCawley 1996:208). The later American takeover of California brought further hardships to the local Native American groups who eventually settled at small Indian and Mexican settlements throughout the Los Angeles basin and neighboring inland valley locations.

The earliest significant moment in the recorded history of the area was the arrival of Portola's former Lieutenant Pedro Fages who, as military governor, accompanied an expedition from San Diego in pursuit of deserters from the Presidio. Fages kept a journal which recorded that the party traveled along the west side of the San Jacinto Mountains to what is now Riverside, continued north into the San Bernardino Valley, and then crossed into the Mojave Desert by way of the Cajon Pass (Allen 1974:24). The record of Fages' transit across the San Bernardino Valley in 1772 is the first written account of the Project area to have survived into modern times.

The diary of Father Francisco Tomás Hermenegildo Garcés contains the second known reference to a historic transit. Garcés' journal began with his departure from Mission San Xavier del Bac near modern Tucson early in the spring of 1776. Upon reaching the settlement of the Mojave Indians on the Colorado River near the present city of Needles, he enlisted the aid of Mojave guides to show him the route they used to cross the desert to reach Mission San Gabriel. On March 4, 1776, Father Garcés left the Colorado River with his Mojave guides and, traveling by foot along the route which was in part to become the Mojave Road by the 1860s, reached the San



Bernardino Valley via the Cajon Pass on March 22, 1776. To date, Garcés' journal stands as the best of the very early accounts of crossing the San Bernardino Valley, and his commentary on the native inhabitants of the valley and the Spanish missionary view of them is invaluable (Arnold et al. 1987).

European settlement and development of the San Bernardino Valley proceeded slowly. The first recorded penetration of the native culture by Europeans occurred on May 20, 1810, when Father Francisco Dumetz celebrated the feast day of the Catholic saint, Bernardine of Siena, in a temporary chapel built at the large Indian rancheria of *Guachama* (Caballeria 1902:38), located between the modern community of Urbita Springs and the city of Colton (Altschul et al. 1984:66). Father Dumetz chose to celebrate the feast day at this settlement because of its size, the apparent peacefulness and receptivity of the natives, and because of its advantageous location near the Santa Ana River.

This event in 1810 marked the consecration of the San Bernardino Rancho and established the dominion of the Mission San Gabriel over the region. At one time the principal ranchos belonging to San Gabriel were San Pasqual, Santa Anita, Azusa, San Francisquito, Yucaipa, Jurupa, Guapa, Rincón, Chino, San José, Ybarras, Puente, Mission Vieja, Serranos, Rosa Castilla, Coyotes, Jaboneria, Las Bolsas, Alamitos, and Serritos (Elliot 1883:24). In addition to San Bernardino, the other mission ranchos to be established in the valley were Agua Caliente and Yucaipa (Altschul et al. 1984:66).

Useful in assessing the significance of these early outposts in the area is the fact that the aboriginal inhabitants, principally Serrano people, were numerous and well established around the valley as sedentary village dwellers; they were not impoverished wandering bands, as were many of the desert cultures at this time. In the early 1800s, when the Spaniards began contacting the inland rancherias, the padres and their escorts were invariably outnumbered, usually without subsistence, and relatively ignorant of the topography. Yet they penetrated the native culture very easily, and were able to establish an outpost of European culture among them. Within 9 years of Dumetz' arrival at *Guachama*, adobe buildings had been constructed, a water ditch or *zanja* had been completed, and field agriculture had been introduced. The natives at *Guachama* became so expert in farming that in 1820, other Indians from the region were invited to watch the *Guachama* demonstrate planting techniques (Arnold et al. 1987).

The year 1819 is often cited as when the mission outpost was established at *Guachama*; the site of the outpost is near the present location of the restored Asistencia on Barton Road. The following year, the local Indians began construction of the Mill Creek *Zanja* under the direction of Father Zalvidea from Mission San Gabriel. The Mill Creek *Zanja* (CA-SBR-8092H) was completed in 1823 (Knight et al. 1962:2). In 1821, two other Franciscans, Fathers Sanchez and Payeras from Mission San Gabriel, spent 5 days among the natives of the San Bernardino Valley. In Father Sanchez' diary, the mission station at "*Guachama*, which we call San Bernardino" is mentioned, though not described; he does, however, note agriculture and stock raising activities taking place (Beattie 1923:14). During these years, the San Bernardino Asistencia was active, functioning as rancho headquarters. Originally, the Mill Creek *Zanja* (CA-SBR-8092H) begins at the Santa Ana River, traverses the city of Redlands, and ends near the Asistencia in the Mission District of Redlands.

The origin of the Mill Creek *Zanja*, originally an earthen ditch, was constructed in 1819 by Native Americans associated with the Asistencia, and was used to irrigate crops. As a result of the Mexican government seizing control of church properties, the Asistencia was largely abandoned by the late 1830s. The Lugo family, under leadership of Jose del Carmen Lugo, moved into the former Asistencia buildings in order to establish a colony. Slover Mountain, also known as El Cerrito Solo, was the natural landmark used for establishing the boundaries of the Lugos' land grant within the San Bernardino Rancho (State of California Resources Agency 1973). What became known as San Bernardino County originally consisted of the following ranchos: Canon de Santa Ana, Jurupa and El Rincon, Cucamonga, Santa Ana del Chino, San Bernardino, and Muscupiabe (Schuiling 1984). The ranchos largely subsisted on cattle ranching and raising crops which were irrigated from the Mill Creek *Zanja* and other irrigation ditches and canals in San Bernardino County.

The origin of the Mill Creek *Zanja* (CA-SBR-8092H) can clearly be traced to the Spanish-mission period of California history. Pedro Alvarez was sent to establish the San Gabriel Mission Asistencia and under his direction, the second mission in an area southwest of what is now known as Redlands was established. Alvarez built a chapel and began work on a canal to bring water from Mill Creek to the mission grounds. The *Zanja* was constructed between 1819–1820 by the Guachama Indians under the supervision of Alvarez (Scott 1976). Originally, the *Zanja* conveyed water from Mill Creek and the Santa Ana River to Guachama Indian Rancheria and Mission (Lerch and Palacios-Fest 2004). The canal was later extended northwest along what is known as Cottonwood Row to Mountain View Avenue, then westerly to San Timoteo Wash (Scott 1976). The current western terminus of the canal is near Mountain View Avenue in the City of Loma Linda (Lerch and Palacios-Fest 2004). A portion of the *Zanja* continues to carry water, but the canal has largely been abandoned.

The Mill Creek *Zanja* has been altered over the course of time. Water was diverted for use in the Moreno Valley in 1890. In October 1892, the Redlands Electric Light and Power Company was formed to develop hydroelectric power using water conveyed by the Mill Creek *Zanja*. A power plant was constructed and a transmission line delivered power to Redlands, which was extended to Riverside in 1896. The power plant was the first polyphase alternating current station in California and the second in the nation. Other alterations include partial paving of the ditch structure and the ditch is subterranean in locations due to in-filled soil. Portions of the canal are earthen and portions are lined with stone, concrete, or other waterproofing materials. The Mill Creek *Zanja* was constructed to provide water for irrigation purposes year round for agricultural enterprises associated with the mission, but has largely been abandoned. The Mill Creek *Zanja* was listed in the NRHP in 1977, is California Historical Landmark No. 43, and crosses the Project APE in Redlands; the *Zanja* has also been designated as Engineering Landmark No. 21 by the Los Angeles Section of the American Society of Civil Engineers.

In 1826, Jedediah Strong Smith, trapper and mountain man, reached the San Bernardino Valley, becoming the first American citizen to enter California over land. Guided by Mojave Indians, as was Father Garcés, Smith left the Colorado River on November 10, 1826, and arrived at the summit of Cajon Pass 15 days later. As he descended, Smith's diary comments on the lushness and abundance of the valley before him. He and his men were taken in and cared for at a rancho some 5 miles short of San Gabriel, where they gave themselves up to the Mexican authorities.

After resting, Smith and his fellow trappers were ordered to leave California the way they had come, across the Mojave Desert. Smith's party left San Gabriel, apparently for his Salt Lake camp, on January 18, 1826 (Morgan 1953:243), with warnings to never return to California.

Despite the warnings, Smith returned to California and the San Bernardino Valley the following August, 1827, again by way of the Cajon Pass. Once again, Mexican officials made it clear that Smith and his party were not welcome; his departure, however, was plagued by delays, confinements, and frustrated negotiations with Mexican officials in San Diego and Monterey. Smith's journal clearly documents the unrest and indecision within the colonial government of Alta California during the middle and late 1820s, particularly regarding the arrival of foreigners from across California's eastern border. Determined never to return, Smith was eventually allowed to leave on December 30, 1827.

The unsettled political condition of California during the 1820s was in part due to the turmoil in Mexico in the wake of the revolution. Most disturbing in California were the decrees issued by the Mexican authorities for the secularization of the mission system. The Indians were "liberated" by decree in 1826, followed by orders for the withdrawal of the Franciscans a few years later (Elliot 1883:27). Despite the clear lack of official support, by 1830 Mission San Gabriel had established a formal branch outpost or Asistencia on the San Bernardino Rancho at Barton Hill. This was later to become State Historical Landmark No. 42; the structures built there were restored in 1937 by the Works Progress Administration (DPR 1979:98).

On August 17, 1833, the Mexican Congress passed the Secularization Act, which placed all mission property into the hands of civil administrators. On orders from the President of the Republic, Governor Figueroa of California issued his decree in August 1835, requiring the restructuring of 10 designated missions into pueblo towns, and the redistribution of mission lands into private ownership (Elliot 1883:27). The former Mission Indians became the most vulnerable victims in the resulting shuffle and land grab, and their numbers were rapidly decimated by disease and culture shock. Those Indians surviving on rancherias throughout the valley apparently experienced mainly a change of masters, from padre to Californio ranchero. This relationship of Californio "padrón" and Indian stock tender worked as well as any system could for the aboriginal population. The main scourge of these Native Americans was disease, more than violence or physical abuse (Arnold et al. 1987).

In the 1830s and 1840s, the Southern Paiute and Mojaves with their well developed warrior class and knowledge of the trails and desert water holes, began their most aggressive raids on these early outposts. After their first raid in 1832, Paiutes again attacked the San Bernardino Asistencia in October 1834, killing Christianized Indians and taking stored grain and altar vessels (Knight et al. 1962:2). They returned again in December 1834, burned buildings, and took Father Esteneza hostage. This last attack, coupled with the decree of secularization, dealt the final blow to the San Bernardino Asistencia; it was abandoned shortly thereafter.

#### 4.5.2 Mexican/Rancho Period: 1834–1850

Throughout the Rancho Period, the ranchers in the San Bernardino Valley were plagued by large stock losses (primarily horses) resulting from the Indian raids. By 1840, the “Hawk of the Mountains,” Walkara, said to be chief of the Ute Indians, was leading well-organized raids on the valley. Walkara commanded a band of 200 men “all of whom were well armed with the best American guns and riding in Spanish saddles on the best mounts available in the western region of North America” (Waitman n.d.:5).

In 1842, in a desperate attempt to protect their stock animals, Juan Bandini, owner of the Jurupa Rancho, and the Lugo family, who had received eight leagues of the Rancho San Bernardino, and had moved into the abandoned Asistencia for the purposes of settling and raising stock, decided to contract for protection with a group of New Mexicans under the leadership of Lorenzo Trujillo, a native of Taos and of Pueblo Indian descent. In exchange for good land for settlement by the New Mexican clan, the “Fighting Trujillos” agreed to establish a colony in the valley and thus protect the ranchero’s property. They accepted the Lugo family’s offer first, and then in 1843 the majority moved to land later known as the “Bandini Donation,” consisting of one-half league on the Jurupa Rancho (Vickery 1977:31). With the departure of the Trujillos, Don Antonio Maria Lugo invited a tribe of Cahuilla Indians to take their place and assume the role of guardians of his land. Under their chief, Juan Antonio, these were the first Cahuilla known to live in the San Bernardino Valley; they remained on the Lugo rancho until it was sold to the Mormons in 1851.

With these two native settlements guarding the valley, the problem of marauders entering by way of Cajon Pass began to diminish. Often with ranchero Don Benito Wilson in command, mounted parties rode up into the mountains in pursuit of Walkara and his men, which reduced the success and frequency of the raids. However, they were unable to defeat Walkara, who continued actively raiding almost up to his death in 1855 (Waitman n.d.:9).

The earliest historically known use of the Santa Ana River Canyon as a transportation route took place in 1845, when Benjamin Wilson led a party of men up the canyon in an expedition against the Indians who had been raiding livestock in the San Bernardino Valley area. The expedition is well documented, and it sheds considerable light on the early use and subsequent development of Santa Ana Canyon as a transportation route. With a force of 80 men supplied by Governor Don Pio Pica, Wilson split his force, sending most of the soldiers and pack train through Cajon Pass and onward to the Mojave River. Wilson, with 22 men, proceeded up the Santa Ana River Canyon and crossed over to what is now Big Bear Lake, “capturing” an abandoned Indian village in the process. Wilson then proceeded to travel to the desert, and met up with the rest of his command at the Mojave River. He later engaged an Indian group in battle, and was severely wounded. As Wilson noted, his life was saved by “my faithful Comanche, Lorenzo Trujillo,” who treated the wound inflicted by a poisoned arrow. Wilson later returned to the San Bernardino Valley by the route he had earlier taken through Bear Valley and the Santa Ana River Canyon, and began preparations for a second expedition into Cahuilla territory via the San Gorgonio Pass. The account of Wilson’s travels is significant in that it served as the basis for subsequent use and exploration of the route and region (Arnold et al. 1987).

Prior to 1845, the use of the Santa Ana River Canyon must have been almost exclusively confined to travel by Indian raiders or native inhabitants of the region. However, the route was certainly known to Wilson or his advisors/guides, as it was specifically selected as a means of pursuit, and command decisions were made (i.e., the splitting up of his force) that imply a knowledge of both travel conditions and destination of the canyon trail. Furthermore, the route must be regarded as one of secondary importance in terms of transportation at this point in time, for neither Wilson nor any other group appears to have subsequently utilized it for punitive raids against the Indians. This situation was, however, to change dramatically in the years to follow in relation to the development of the fur and lumbering trades.

#### **4.5.3 American–Mormon Period: 1851–1857**

Wilson’s trip up the Santa Ana Canyon opened a new pathway to the mountains. In particular, the stories told of encountering and killing numerous bears at what is now Big Bear Lake served to attract trappers and to develop the fur trade in the San Bernardino Mountains. Later historians have written that Wilson “opened the route to Big Bear Valley, the fame of which spread like wildfire when his party returned to San Bernardino with 20 bear pelts” (Drake 1949:13). The actual truth is probably less dramatic, as a true “boom” in the fur trade did not develop. In reality, fur trading was already an established enterprise when Wilson made his journey up the canyon, and it is likely that Wilson’s stories were received by trappers as only one of several relatively virgin areas to be potentially targeted for fur pelts.

Trappers undoubtedly utilized the Santa Ana Canyon route as a means of access to the Big Bear area, and their successes most certainly led to a more general circulation of knowledge regarding the region. The actual impact of the fur trade during the Rancho Period is more difficult to determine. One source notes that “changes in the valley floor which began in the Mission Period became widespread. There was beginning pressure on the antelope herds, deer and grizzly bear from competition with livestock and increased hunting, though the mountains remained pristine” (Hill 1985:3).

A far greater impact to the region was the direct result of the development of the lumber industry. The Mormon Period from 1850 to 1857 initiated “...major farming efforts and the start of timber-cutting in the mountains. From this time on, there was widespread homesteading and farming with the diversion of the mountain streams for irrigation” (Hill 1985:3–4). Although the rugged nature of the Santa Ana Canyon precluded the transportation of lumber, it is likely that the canyon was used as an exploration route into the interior region. Additionally, following the discovery of gold in the mountains around Bear Lake in 1860, lumbering would rapidly become a major industry in the Bear Valley area (Johanneck 1975:47).

During the period from 1845 to 1860, the route to Bear Valley by way of Santa Ana Canyon was traveled by hunters, trappers, lumbermen, explorers, and prospectors. From 1855 to 1860 the canyon was relatively heavily utilized by miners, setting the stage for a true gold mining “boom” and the establishment of Santa Ana Canyon as the actual gateway to the gold fields following Billy Holcomb’s gold discovery in what is now referred to Holcomb Valley (Hatheway 1987).

The Mormon experience in California has its roots in the Mexican-American War years (1846 to 1848), when the Mormon Battalion was formed in Iowa and sent to California. Although too late

to participate in the battle, the Mormon soldiers did observe the San Bernardino Valley during the fall harvest, and returned to Salt Lake with glowing reports of the area's potential. On March 14, 1851, a group of approximately 500 Mormons left Salt Lake with the intention of establishing a Mormon colony in the area.

Camping for the summer of 1851 in a sycamore grove in Cajon Pass, the Mormon families waited for the results of their leaders' negotiations to buy land to build their town. In September, 1851, Mormon leaders Lyman and Rich bought the 35,000 acre Rancho de San Bernardino from Antonio Lugo for \$77,500, and development of the town was immediate (Allen 1974:33). A stockade was constructed, crops were planted, and a road was built up into Waterman Canyon for lumber. In 1852, a grist mill was completed, and in the following year the first county election was held and the post office in San Bernardino was opened (Knight et al. 1962:6). Despite several years of prosperity, in 1857, trouble between the Mormon Church and federal government became so intense that Brigham Young called the faithful to return to Salt Lake City. Roughly two-thirds obeyed, packed their belongings, and in the winter of 1857–1858, left their homes for Salt Lake City. As the discontent leading to the Civil War built up nationwide, the Southern cause found some sympathy among the Mormons, already in a hostile position with the federal government. San Bernardino became known as “a secessionist hotbed” (Waitman n.d.:11) and upon the recall of the Mormons, the town was left to “a lawless element [who] moved in and took over the town and soon saloons, gambling dens and houses of ill-fame outnumbered the decent establishments” (Allen 1974:33).

## 5 FIELD METHODS

Reconnaissance and intensive pedestrian surveys were conducted within the I-10 corridor survey area in 2008, 2009, and 2014. A summary of methods employed during these fieldwork efforts is provided below.

### 5.1 RECONNAISSANCE SURVEY

Three reconnaissance or windshield surveys were conducted by Æ as part of the fieldwork for the Project. This work involved the visual inspection of portions of the Project ADI from the public ROW. An initial reconnaissance survey was undertaken by Æ personnel in February 10, 2009. The primary purpose of this work was to assess the current condition of four of the known archaeological sites that had been previously reported within the Project APE: the Kaiser Steel Mill (CA-SBR-4131H), the Old Kite Railroad Route (CA-SBR-6847H), the East Redlands Canal (CA-SBR-8546H), and the San Bernardino-Sonora Road (P-36-016417). Given the extent of historical and modern disturbance along the Project corridor, it was likely that at least some of the known resources had been destroyed since their initial documentation. In addition, reconnaissance was needed for the nine pending historical archaeological sites. As previously mentioned, this category is used to denote resources whose existence is based solely on historical references and not on field observation. Using locational data provided by the SBAIC, the mapped location of each of the pending sites was visited during the reconnaissance survey to assess whether surface remnants of these resources were present in the Project APE. Resources examined during this fieldwork effort included: the Tenney Ditch (P1063-49H), the Marias Araminta Ditch (P1063-52H), an unnamed road (P1074-61H), the Hunt and Cooley Ditch (P1074-84H), the Camp Carlton Ditch (P1074-85H), the Jansen Ditch (P1074-86H), the Rancheria ditch (P1074-88H), the Old Meeks and Daley Ditch (P1074-104H), and the Sunnyside and South Fork Ditches (PSBR-21-H). Finally, portions of the APE that had been previously inventoried as part of prior I-10 improvement projects were also revisited to determine if the findings of these past studies were still valid.

A drive-by windshield survey of the proposed locations of Project-related soundwalls was conducted on September 25, 2009. The proposed soundwall locations were primarily in areas that had been built up or covered with asphalt. The one exception was a proposed soundwall location that was transected by the Mill Creek *Zanja* (CA-SBR-8092H); however, the current Project description does not identify any improvements to occur at this location. As this segment of the Mill Creek *Zanja* had not been formally recorded, the in-use irrigation ditch was documented on a DPR 523 form during the fieldwork effort (HRER; Appendix A).

A third reconnaissance survey was undertaken by Æ archaeologists on January 23, 24, and 29, 2014. The goal of this latter work was to identify areas within the expanded portion of the Project ADI (2,537 acres) that exhibited conditions that would be suitable for pedestrian survey. Towards this end, aerial photographs were first examined to identify parcels within the Project ADI that lacked standing buildings, structures, or extensive hardscape and did not appear to have experienced extensive ground modification. Each of the parcels identified during the desktop analysis was subsequently visited and examined from the public ROW in order to further assess

the condition of the property. As a result of this work, portions of 72 parcels (82.63 acres) were identified within the Project ADI that appeared amenable for pedestrian survey.

## **5.2 PHASE I PEDESTRIAN SURVEY**

Phase I surveys within the Project ADI were first conducted on December 11 and 12, 2008 by AE archaeologists Dennis McDougall and Patrick Moloney, who were under the direct supervision of Melinda Horne. This fieldwork effort involved the pedestrian survey of five of the 16 proposed CSAs, a total of 57.31 acres (HPSR; Exhibit 1, Figure 3).

The remaining 11 CSAs were not surveyed at that time. For the preparation of this ASR, it was determined that six of the originally proposed 11 CSAs were found to exhibit extensive ground disturbance that made them unsuitable for pedestrian survey due to either substantial ground disturbance or recent construction activities. Additionally, subsequent design modifications to the Project resulted in the elimination of the remaining five construction staging areas not examined during the December 2008 survey.

One of the construction staging areas examined during the Phase I survey, which was located east of Waterman Avenue and south of Hospitality Lane in the City of San Bernardino, was found to be a graveled lot. Because the proposed staging area lacked any exposure of the original ground surface, a systematic survey was not completed of this 5.94-acre site. The remaining four proposed construction staging areas, which totaled 51.37 acres, were systematically inspected by the field crew walking in parallel transects spaced at 10- to 15-meter (33- to 40-foot) intervals. Ground visibility in these areas ranged from moderate to excellent with vegetation and modern debris partially obscuring portions of the survey areas. All areas likely to contain or exhibit archaeologically or historically sensitive cultural resources were inspected carefully to ensure that visible, potentially significant cultural resources were discovered and documented. Additionally, surveyors investigated any unusual landforms, contours, soil changes, features (e.g., road cuts, drainages), and other potential cultural site markers.

During survey, one or more cultural features or three or more artifacts greater than 45 years of age within a 30-meter (100-foot) radius were deemed to constitute a cultural resource (or site). Cultural features or clusters of artifacts more than 30 meters away from the nearest known cultural resource were considered a separate site area unless the features or materials were considered components of a larger site.

When encountered, archaeological sites and isolated artifacts were recorded on State of California Department of Parks and Recreation Primary and/or Archaeological Site Record Forms (DPR 523 [1995]) as deemed appropriate. Systematic efforts were made to characterize and define the aerial extent of each cultural resource. Site and isolated artifact locations were plotted on the appropriate 1:24,000 scale U.S. Geological Survey (USGS) topographic map using a Trimble GeoXH 2005 Series handheld Global Positioning System (GPS) unit with sub-meter accuracy; site maps were also generated using the same GPS unit. Digital photographs were also taken of each site, as well as of any extant cultural features and exceptional artifacts present. Any discrete cultural features important to site interpretation were also documented fully and photographed. No artifacts were collected during the Project's archaeological resources survey.



Each day, the Field Supervisor completed a Daily Work Record that documented survey personnel, hours worked, weather, ground surface visibility, vegetation, soils, exposure/slope, topography, natural depositional environments, and identified cultural resources.

A second round of Phase I surveys was conducted on July 8–10, 2014 and August 4–6, 2014 within the undisturbed portion of the 72 parcels that had been identified within the expanded Project ADI during reconnaissance efforts (HPSR; Exhibit 1, Figure 3). Tiffany Clark supervised the survey work with Michael Kay acting as Field Director and Elizabeth Cisneros providing technical support. The field survey methodology was similar to the first round of surveys with the archaeologists systematically walking transects across the portion of each of the parcels located within the Project ADI. Only those portions of the parcels lying within the Project ADI, which totaled 81.63 acres, were examined during the Phase I survey. Two of the 70 parcels (APNs 013221111 and 013219115) could not be examined as these properties were fenced and inaccessible. An additional parcel (APN 016924434) had recently been sold and the new owners could not be identified. Thus permission to enter could not be obtained. For each of these three parcels, the ground surface was examined from the public ROW with field notes of conditions of the parcel recorded. The portions of the three parcels that were not intensively inspected in the Phase I survey totaled 1.20 acres, which reduced the pedestrian survey area of the expanded Project ADI to 80.43 acres.

The surveyed parcels consisted of in-use and fallow agricultural fields, orchards, and empty lots. Ground visibility was good to excellent in most of the surveyed parcels. Exceptions include three adjacent parcels (APNs 029203307, 029203314, and 029203315) in the City of Redlands, which were under active cultivation. In addition, two additional parcels (APN 104745124 and 104742305) were found to be covered with gravel. In these areas, ground visibility ranged from poor to moderate. Although other portions of the survey area contained scattered vegetation or concentrations of modern trash and debris, exposure in these areas was sufficient to allow for a systematic inspection of the ground surface by the archaeologists.

### **5.3 SUMMARY**

The findings of the reconnaissance surveys indicate that much of the Project ADI (total acreage of 2,459.08 acres) is characterized by standing buildings, structures, and extensive hardscape, which has largely obscured the ground surface. Furthermore, those areas that have not been subject to development often contained extensive ground disturbance that lack native sediment. As a result, a relatively small portion of the Project ADI (138.94 acres) was found to be suitable for Phase I survey. AEC conducted intensive pedestrian surveys of 131.80 acres of the 138.94-acre Project ADI.

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## 6

### STUDY FINDINGS AND CONCLUSIONS

Phase I surveys conducted in 2008 identified the historical remains of a homestead/farmstead site (CA-SBR-12989H/P-36-014510) within a proposed construction staging area. Archival research conducted on the site indicates that it was occupied by the pioneer Curtis family from 1895 to the 1950s. The reconnaissance surveys completed in 2009 found no visible evidence of the nine pending historical sites reported by the SBAIC and only one of the five previously recorded historical archaeological sites, the Mill Creek *Zanja* (CA-SBR-8092H/P-36-008292) was field verified at its previously reported location; the Mill Creek *Zanja* intersects the Project APE in the City of Redlands. Although portions of the Mill Creek *Zanja* have been recorded as historical archaeological resources, it continues to convey water and meets the definition of a "structure;" therefore, this resource is documented as a historic built environment resource in the HRER being prepared in support of this Project (see Exhibit 3 of the HPSR prepared for this Project). Reconnaissance survey of the Project APE conducted as part of the current study confirmed previous survey findings associated with prior I-10 improvement projects remain valid. Finally, a Phase I survey undertaken in July and August 2014 located no additional archaeological resources within the expanded Project ADI. A description of the homestead/farmstead site recorded within the Project ADI is presented below; the site record is provided in Appendix A.

#### 6.1 CA-SBR-12989H (CURTIS HOMESTEAD SITE)

Identified on Figure 3 in Exhibit 1 of the HPSR, the Curtis Homestead Site (CA-SBR-12989H/P-35-014510) is located within the SW ¼ of the SE ¼ of Section 24 (T1S/R4W; SBBM) within APN 028124109. CA-SBR-12989H is situated within a triangular configuration of trees at the northeast corner of a flat, open field, measures approximately 170 feet by 145 feet (E-W by N-S), and consists of a historical homestead/farmstead site containing a razed cobble-and-mortar house foundation (see Feature 1), a second razed cobble-and-mortar foundation (see Feature 2) of a much smaller building situated adjacent to the main house foundation, and a sparse-to-moderate density scatter of domestic refuse (e.g., bottle glass, ceramic items) and construction debris. Landscaped trees (pepper trees [both dead and alive], one scrub oak, and one large unidentified shrub) are situated around the periphery of the site area.

The site is situated within a currently fallow agricultural field that has been repeatedly plowed and disked for decades. As a result of these activities, much of the refuse present within the site area is highly fragmented with temporally diagnostic items few and far between. Most cultural materials appear to date to ca. 1920s to ca. 1940s or later; however, some materials observed (e.g., one piece of sun-colored amethyst glass [ca. 1880s–1920], blue-on-white hand painted transfer ware, annular ware, one salt-glazed ceramic ink well, one piece of Chinese brown ware, and porcelain doll fragments) suggest that the site area may have been occupied as early as the late 1800s or around the turn of the century.

Due to repeated plowing and disking of the field surrounding the razed foundations, some cultural materials appear to have been displaced and fall outside of the currently established site boundary.

The site boundary as currently defined reflects the extent of the denser concentrations of cultural materials, as well as the landscaped trees, but does not encompass materials that appear to have been more widely scattered by agricultural activities.

### **6.1.1 Features**

As noted above, Feature 1 consists of a razed cobble-and-mortar foundation of a residential house structure. The more intact wall segments suggest a four room structure measuring approximately 40 feet by 27 feet (N-S by E-W). The foundation walls are mostly 1-foot thick, and currently rise from the ground level to 3- to 10-inches high above the surrounding ground surface. The depths of the walls are unknown, but an exposure of the interior side of one wall at the northwest corner of the structure extends at least 2 feet below ground surface. Brick rubble surrounding the foundation indicates that at least portions of the upper structure above the foundation were constructed of brick. Small bits of asphalt composite roof shingles suggest that the roof of the structure was improved/updated at least once since original construction.

Situated at ground level 9 feet to the west from the northwest corner of Feature 1, Feature 2 consists of the razed foundation remnants of a much smaller building of undetermined function, and of rectangular configuration, measuring 10 feet by 9 feet (E-W by N-S). The walls of the Feature 2 foundation are of the same construction (cobble-and-mortar) and thickness (1 foot) as Feature 1; depth of the walls is unknown.

Cultural materials are scattered throughout the site area, but the densest concentrations occur to the immediate north of Features 1 and 2, and surrounding the scrub oak/pepper tree cluster in the northwestern site area. As noted above, repeated plowing of the area over the years has resulted in fragmenting much of the cultural immaterial into very small pieces. Additionally, plow drag has scattered some cultural materials beyond the site boundary as currently defined. Cultural materials observed are described below by material and/or functional class.

Ceramic types observed on site include: plain whiteware; both mint and orange colored “Bauer” ware (1905 to ca. 1958; Kovel and Kovel 1986); Chinese brown ware (one piece); green-on-white, polychrome-on-white, and red-on-white floral decal transfer prints; blue-on-white hand-painted transfer ware; annular ware (blue and white bands on mocha, and black band on mocha); one salt-glazed stoneware ink bottle or well (short cylindrical body 2.25 inches by 1.25 inches [diameter by height to shoulder]; whiteware with gilt rim; brown salt-glazed stoneware crockery; molded whiteware with floral design (cup handle and dish lid); porcelain doll fragments (two); and terra cotta.

Glass types observed include: flat glass (aqua and clear); sun-colored amethyst (one piece) (ca. 1880s to 1920; Lockhart 2006); aqua, brown, clear, green, olive (wine), and milk glass bottle fragments; milk glass canning jar lid liners; clear glass lamp chimneys; clear glass with molded floral pattern; one small rectangular nail polish bottle (1 inch high by 0.5 inch square) with vertically ribbed body with “CUTEX / 7” embossed on base (1912 to ?; Hull-Walski and Ayers 1989:90); and ruby glass with a cross-hatched textured exterior (1 piece).

Miscellaneous items include: porcelain electrical insulators; salt-glazed sewer pipe; cement standpipe (laying on ground) 6 feet long, 1 foot 10-inch diameter with impressed mark of “T / 18

33"; horseshoe (one); galvanized sheet metal straps; ferrous metal straps; a lead Old English stylized letter "E"; a wood/metal furniture pull knob embossed with "H"; one wooden door knob painted light blue; brick rubble; fragments of asphalt composite roof shingles; one molded piece of refined coal (or coke); milled lumber fragments (3 3/8 inches by 1 1/2 inches) with wire nails; one pismo clam shell fragment; and fragments of unburned, highly weathered large mammal bone.

Depth of the cultural deposits at CA-SBR-12989H is unknown. However, hollow subsurface features (i.e., privies, cisterns) may be present and may contain significant subsurface cultural deposits. Site integrity is impaired. The buildings have been razed, resulting in much of the remaining foundation work being broken and displaced from their original alignments. Additionally, razing, plowing, and disking has reduced all cultural materials to very small fragments, and scattered much of the cultural materials into the surrounding fields beyond the currently defined site boundary.

### **6.1.2 Archival Information on APN 028124109**

Archival research conducted by David Earle of Earle and Associates indicate that APN 028124109, located along Redlands Boulevard in the City of Loma Linda, consists of a 16.2-acre parcel formerly forming part of the holdings of the pioneer Curtis family, who began farming on the property before 1895. The parcel was originally part of a 90-acre lot, called Lot 2, subdivided from Block 72 of the Rancho San Bernardino. The final adjudication of the Rancho and its subdivision took place during the decades from the 1860s through the 1880s. As of 1895, the date of commencement of assessors map book records for this area, George W. Curtis owned the southerly 50 acres of Lot 2, excepting the southernmost 10 acres adjoining a roadway then called Colton Avenue (later Redlands Boulevard). Lot 2 (90 acres) was approximately 1,300 feet wide from east to west and extended about 3,000 feet from south to north. Curtis' original property within the lot consisted of 40 acres divided into two 20-acre parcels. Curtis' improvements were listed as located in the northerly of these two parcels. In 1895, his landholdings were valued at \$1,600, and his improvements, which appear to have included a dwelling, at \$600, a substantial amount for that era. Fruit trees were valued at \$200, alfalfa at \$45, and in 1897 what may have been a wheat crop at \$100 (San Bernardino County Assessor 1895–1951).<sup>2</sup> The values given for land and improvements declined somewhat by 1900 on account of the long drought from 1896 through 1904 that severely impacted southern California agriculture.

As of 1895, the southernmost 10 acres of Lot 2 was owned by Mrs. L. A. Pierson (1895–1897) and then by C. G. Pierson from 1897 through 1901. No improvements nor trees, vines, or crops were listed for this property at that time. In 1901, the property was acquired by George W. Curtis and added to his other adjacent holdings. Curtis continued to own the entire southerly 50 acres of Lot 2, including APN 028124109, through 1938 (San Bernardino County Assessor 1895–1951). The southerly 30 acres of Lot 2 continued to be listed as lacking either improvement or fruit trees during this lapse of time. The most northerly of the three lots within Curtis' 50-acre block, a

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<sup>2</sup> The following cited reference: (San Bernardino County Assessor 1895–1951) provides a listing of Assessor's Lot Books by year dates, book number, and page number, which indicates the sources of ownership and tax assessment data for properties in and near the project area for all years between 1895 and 1951.

20-acre parcel, appears to have been the site of his farmstead and dwelling. This was often assessed at a value as high as \$1,000 during these decades. The southern part of this northerly parcel of Curtis' farm is today situated at the very north end of APN 028124109. In addition, this northerly lot contained a relatively large citrus orchard maintained continuously from the 1890s through the 1950s (San Bernardino County Assessor 1895–1951).

George W. Curtis was born in Bandera County, Texas on October 24, 1856, of parents from Michigan and Germany. His family, including his parents William (born April 1, 1826 in Pontiac) and Mary Henriette Rocig (born December 13, 1833 in Frankfurt) and five siblings—Mary, Ruth Aurelia, Ely, Jeremiah, and Newell—were resident in San Bernardino Township in 1870. The oldest daughter had already left the household. The family had arrived in San Bernardino by wagon train from San Antonio, Texas in 1861 (Brown and Boyd 1922:1431). William Curtis mined gold on Lytle Creek until 1867, when he bought 60 acres in the vicinity of the San Bernardino Asistencia several miles west of the later site of Redlands (California Supreme Court 1893). Dr. Benjamin Barton, who owned the Asistencia in the 1860s, was listed as an immediate neighbor in the 1870 decennial census (U.S. Bureau of the Census 1870). The land had been partially improved with irrigation ditches, and Curtis engaged in grape raising and other farming (Brown and Boyd 1922:1431–1433). William Curtis developed his farm into an important navel orange producer, and his daughter Ruth Aurelia later resided on the property in the early twentieth century. Her brother, George W. Curtis, was married in 1885 to Elvira Eunice Wilcox of Boone County, Illinois, born on March 19, 1856, to parents from Vermont and Canada. In 1887, the couple was living in Red Bluff, California, where a son, George Edwin Curtis, was born on November 14 (U.S. Selective Service System 2005). A daughter, Asenath Faye, was also born in California on October 21, 1890, apparently in the “Mission District” west of Redlands. As of 1900, George Curtis was listed as a farmer by occupation, owning his land in Lot 2 without a mortgage (U.S. Bureau of the Census 1900). Jeremiah Curtis, George's younger brother, occupied a parcel in Lot 2 adjoining George Curtis' property to the north. Jeremiah Curtis owned this land from at least as early as 1895 through 1908, and was resident on the parcel in 1900 but not in 1910. The Curtis holdings in Lot 2 were located about a mile to the northwest of William Curtis' place, southwest of the intersection of Colton Avenue (modern Redlands Boulevard) and California Avenue.

As of 1910, George Curtis was operating his farm as an owner but with a mortgage. His 21-year-old son George Edwin was still living on the farm but working as a grocery clerk. In addition to his wife and two children, Curtis' 82-year-old mother-in-law, Asenath Wilcox, was also resident in the household (U.S. Bureau of the Census 1910). As of 1917, son George Edwin was married to Eva Easton and living on Myrtle Street in Redlands. He was doing farm work on his own account and also for his father, although he had requested a draft deferment on account of a foot and ankle injury (U.S. Selective Service System 2005; U.S. Bureau of the Census 1920a). As of 1920, George Curtis, his wife, and his daughter Faye were resident on the property (U.S. Bureau of the Census 1920b). The 1930 US decennial census lists Curtis, his wife, and his daughter as resident along with a 60-year-old housekeeper named Mary Acker. At that time Curtis' daughter, Faye, was working as a stenographer at an office (U.S. Bureau of the Census 1930). She had previously worked for the Internal Revenue Service in San Bernardino in the early 1920s, and as a Deputy County Surveyor in the late 1920s (San Bernardino County Clerk 1920, 1921, 1924,

1928). On both censuses George Curtis was listed as a farmer operating a general farm on his own account.

As of the late 1920s and early 1930s, Curtis was one of the few farmers in his immediate neighborhood with a substantial citrus orchard. The San Bernardino Valley Water District was supplying water to this and other nearby holdings by the late 1920s (San Bernardino County Assessor 1895–1951). Wells and pumping plants were also being used in the area. Subsequent to obtaining the southernmost 10-acre parcel within Lot 2 in 1901, Curtis' parcel holdings were divided into a southerly 30-acre parcel and a northerly 20-acre parcel. The southerly 30-acre parcel abutted on Colton Avenue, and was undeveloped, in respect to either structural improvements or the establishment of citrus orchards, before the decade of the 1940s. At some point, perhaps subsequent to the end of the 1920s, the period of the last assessors map sheet available for the parcel, a roadway running northward up the eastern boundary of the Curtis property was designated as Curtis Lane, later Curtis Street (San Bernardino County Assessor 1895–1951). This roadway provided access to the Curtis homestead/farmstead in the northern part of the property. It also provided access to properties further to the north. In a 1934 county voter registration roll, George W. Curtis' address was given as Curtis Lane (San Bernardino County Clerk 1934). The roadway and the Curtis dwelling are shown on a quad sheet surveyed in 1939 (U.S. Geological Survey 1943) (Figure 6-1).

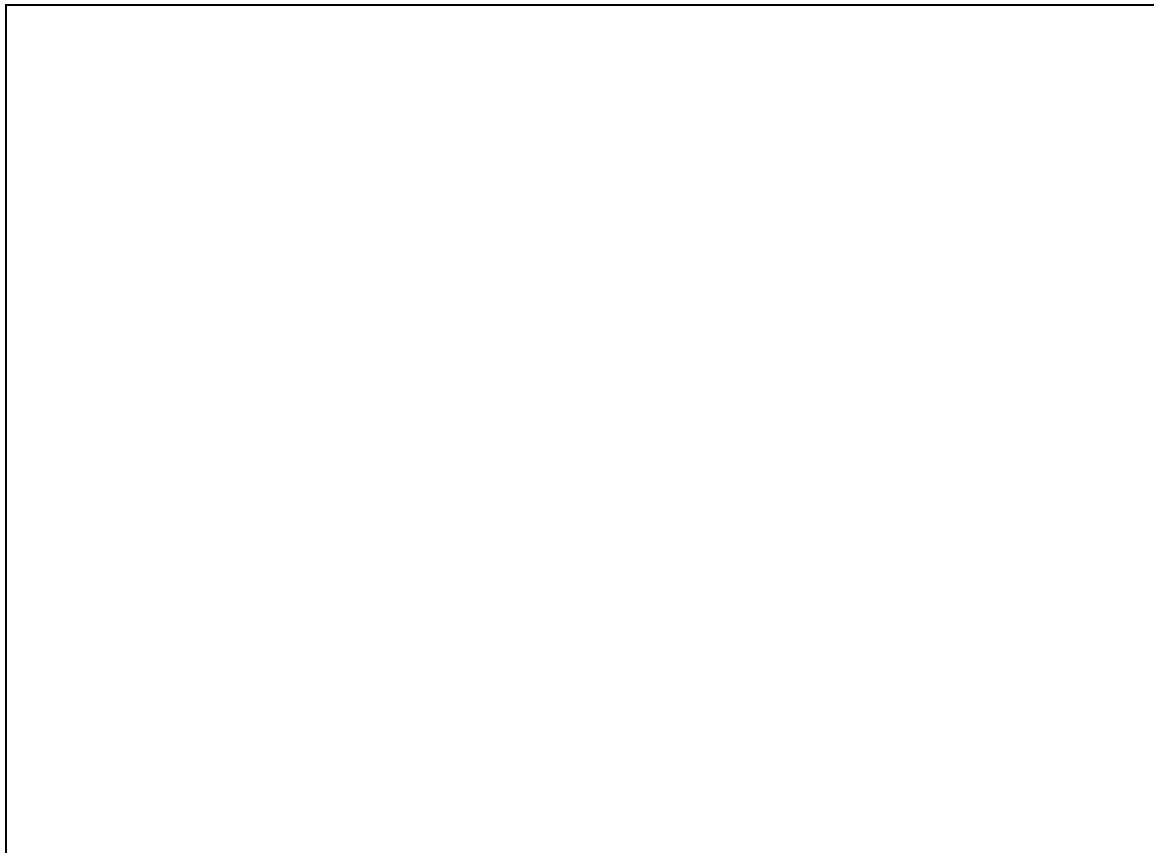


**Figure 6-1    Portion of 1943 Redlands and Vicinity quadrangle showing location of Curtis homestead/farmstead**



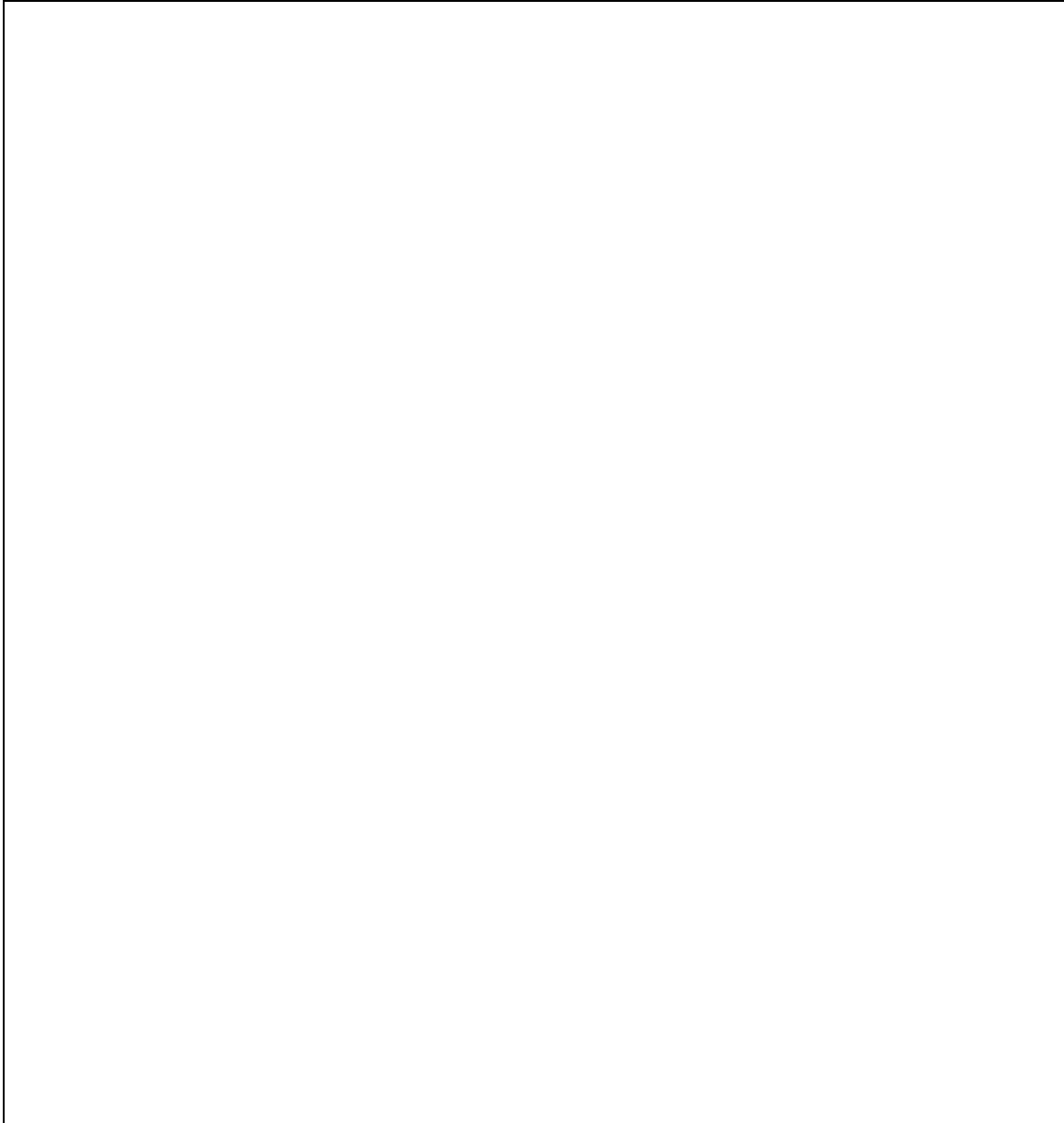
Faye Curtis was married prior to 1942 to a man named Harrison. George W. Curtis's wife, Elvira Eunice, assumed ownership of the farm property in 1939, perhaps on account of her husband passing away, although his death date is uncertain. She passed away in Redlands on November 29, 1940 (California Department of Health Services 2000). In 1942, her children, George Edwin Curtis and Faye Curtis Harrison, assumed ownership of the property. By the year 1947, George Curtis and Faye Harrison had split off an 11.9-acre parcel from these southerly 30 acres of Lot 2 that was dedicated for use as the Pacific Drive-in Theater (later known as the Tri-City Drive-In Theater) (San Bernardino County Assessor 1895–1951). This had an improvement value of some \$20,000. George Edwin Curtis and his wife were resident in Redlands (25 Parkwood Drive) in 1958, and George Edwin passed away in Orange County on 8 April 1962 (San Bernardino County Clerk 1958). Faye C. Harrison passed away in San Marino, Los Angeles County, on July 29, 1974 (California Department of Health Services 2000).

At the same time, the improvements in the northerly 20 acres of the 50-acre parcel in Lot 2, by 1946 valued at \$600, subsequently declined to \$100 in value. In the same year of 1947, an improvement valued at \$600 appears for the first time in the non-drive-in portion of the southerly 30-ac parcel within the family holdings in Lot 2. In addition, beginning in 1946, fruit trees were listed and assessed in this southerly lot. These trees appear in a 1949 aerial photo of the Curtis farmstead (U.S. Department of Agriculture 1949) (Figure 6-2).



**Figure 6-2** 1949 air photo of Curtis homestead/farmstead

This assessor's information thus suggests that there might have been a change in location of dwellings and other improvements in the family farmstead within Lot 2 as of 1947. These data may be accounted for by assuming that either buildings changed location or the lot boundaries were resurveyed or otherwise shifted. The latter scenario is possible because the lot boundary appears to have run east-west through the farmstead, as discussed below. The aerial photo taken in 1949 shows a dwelling and outbuildings at the Curtis family farmstead (see Figure 6-2). This farmstead was surrounded by a mature citrus orchard. It is to be noted that the northern boundary of the southerly 30-acre parcel that was listed in assessor's records as having no improvements placed on it until the 1940s appears to run east-west just to the north of this dwelling, perhaps along an adjacent driveway. It appears that on the opposite side of the driveway, perhaps within the northerly 20-acre parcel of the Curtis family holdings, there was another small structure. Some 60 yards further to the northwest, there was a clearing or yard within the citrus orchard in the 1949 aerial photo that contained roofed structures of some kind. In a 1959 aerial photo, these structures appear to have been demolished, leaving a vacant yard (U.S. Department of Agriculture 1959) (Figure 6-3).



**Figure 6-3 1959 air photo of Curtis homestead/farmstead**

There may have also been other structures removed to the southeast in the driveway area by this date, although the resolution of the 1959 photo makes this difficult to determine. The assessed value of the newly listed improvements on the south side of the parcel boundary in 1951 (San Bernardino County Assessor 1895–1951), \$600, does not suggest an elaborate or newly constructed dwelling. The suggestion that the farmstead shown in the 1949 and 1959 aerial photos was located further north prior to 1947 does agree with the finding of cement cobble foundations and domestic artifacts of late 19th or early 20th century date identified at CA-SBR-12989H, suggesting pre-1950s occupation of a four room dwelling at what appears to be the southerly structure location and driveway area shown in the 1949 and 1959 aerial photos. In addition, a Redlands quad sheet (scale 1:31,680) surveyed in 1939 shows a dwelling in the approximate location of the southerly driveway area in the aerial photos (USGS 1943) (see Figure 6-1).

## 6.2 OTHER CULTURAL RESOURCES

This section documents all other resources encountered during the cultural resources study of the Project APE. Other resources include previously reported archaeological resources that were not found as a result of destruction, obstruction, or other factors; previously recorded archaeological resources that were identified by Native American consultants are outside the Project APE; and non-archaeological resources such as built environment resources that are documented in the HRER (see Exhibit 3, HPSR).

### 6.2.1 Previously Reported Archaeological Resources not found within the APE

Three historical archaeological sites previously reported within the APE and nine pending historical sites were not found during the current study. The resources do not exist within the Project APE and no further management of these resources is required for the Project. A site record update was prepared, as appropriate (see Appendix A).

**CA-SBR-4131H (36-004131):** On February 10, 2009, archaeologists revisited the previously recorded site of the Kaiser Steel Mill (CA-SBR-4131H). During the field visit, it was ascertained that all of the major components of the former steel mill located within the APE had been demolished.

**CA-SBR-6847H (36-006847):** On February 10, 2009, archaeologists revisited the segment of CA-SBR-6847H, the Old Kite Railroad Route, which reportedly crossed the APE in the City of Redlands. Reconnaissance survey of the area found that the portion of the Old Kite Railroad Route in the vicinity of I-10 was dismantled.

**CA-SBR-8546H (36-008546):** On February 10, 2009, archaeologists revisited the segment of CA-SBR-8546H, the East Redlands Canal, which reportedly crossed the I-10 corridor in the City of Redlands. Reconnaissance survey of the area found no trace of the canal within the APE.

**P1064-49H:** On February 10, 2009, archaeologists visited the location of the Tenney Ditch (P1064-49H) where historical maps depict the ditch intersecting the Project APE. No evidence of the historical ditch was identified in the APE during the reconnaissance survey.

**P1064-52H:** On February 10, 2009, archaeologists visited the location of the Marias Araminta Ditch (P1064-52H) where historical maps depict the ditch intersecting the Project APE. No evidence of the historical ditch was identified in the APE during the reconnaissance survey.

**P1064-61H:** On February 10, 2009, archaeologists visited the location of an unnamed road (P1064-61H) where historical maps depict the road intersecting the Project APE. No evidence of the historical road alignment was identified in the APE during the reconnaissance survey.

**P1064-84H:** On February 10, 2009, archaeologists visited the location of the Hunt and Cooley Ditch (P1064-84H) where historical maps depict the ditch intersecting the Project APE. No evidence of the historical ditch was identified in the APE during the reconnaissance survey.

**P1064-85H:** On February 10, 2009, archaeologists visited the location of the Camp Carlton Ditch (P1064-85H) where historical maps depict the ditch intersecting the Project APE. No evidence of the historical ditch was identified in the APE during the reconnaissance survey.

**P1064-86H:** On February 10, 2009, archaeologists visited the location of the Jansen Ditch (P1064-86H) where historical maps depict the ditch intersecting the Project APE. No evidence of the historical ditch was identified in the APE during the reconnaissance survey.

**P1064-88H:** On February 10, 2009, archaeologists visited the location of the Rancheria Ditch (P1064-88H) where historical maps depict the ditch intersecting the Project APE. No evidence of the historical ditch was identified in the APE during the reconnaissance survey.

**P1064-104H:** On February 10, 2009, archaeologists visited the location of the Old Meeks and Daley Ditch (P1064-104H) where historical maps depict the ditch intersecting the Project APE. No evidence of the historical ditch was identified in the APE during the reconnaissance survey.

**PSBR-21-H:** On February 10, 2009, archaeologists visited the location of the Sunnyside/South Fork Ditches (PSBR-21-H) where historical maps depict the ditches intersecting the Project APE. No evidence of the historical ditch was identified in the APE during the reconnaissance survey.

## **6.2.2 Archaeological Resources Reported by Consultants not found within the APE**

**CA-SBR-2316/H (36-002316):** The San Manuel Band of Mission Indians expressed concerns regarding potential effects of the Project on the prehistoric component of the Crystal Springs Ranch site (CA-SBR-2316/H; P-36-02316). This multicomponent site consists of a prehistoric artifact scatter and the historical remains of the Heron Homestead. The resource is located more than half-mile outside of the Project ADI. No evidence of CA-SBR-2316/H was identified during the reconnaissance or intensive pedestrian surveys of the Project ADI.

## **6.2.3 Built Environment Resources**

As previously noted, built environment resources, including the Mill Creek *Zanja* (CA-SBR-8092H), are documented in the HRER that has been prepared for the Project (Exhibit 3 of the HPSR). Although portions of the Mill Creek *Zanja* (CA-SBR-8092H) have previously been recorded as a historical archaeological resource, the segment that intersects the Project APE continues to convey water and meets the definition of a "structure." Therefore, for the purposes of the current study, the Mill Creek *Zanja* is discussed as a historic built-environment resource in the HRER.

## **6.3 UNIDENTIFIED CULTURAL MATERIALS**

It is Caltrans' policy to avoid cultural resources whenever possible. Further investigations may be needed if buried cultural materials are encountered during construction, and it is Caltrans' policy that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find. Additional survey will be required if the Project changes to include areas not previously surveyed.

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## **APPENDIX A**

**Confidential—Archaeological Site Record  
CA-SBR-12989H (36-014510)**