Cultural Resources Survey for the Apple Valley Airport Master Plan Project, San Bernardino County, California

Prepared for
Coffman Associates

Prepared by
SWCA Environmental Consultants
Pasadena Office

September 2012
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Prepared for:

Coffman Associates
237 NW Blue Parkway, Suite 100
Lee’s Summit, Missouri 64081
Phone: 816-524-3500
Fax: 816-524-2575 (FAX)
Contact: Eric Pfeifer

Prepared by:

Charles W. Cisneros, M.S., RPA

SWCA Environmental Consultants
Pasadena Office
150 S. Arroyo Parkway, 2nd Floor
Pasadena, California 91105
Phone: 626-240-0587
Fax: 626-240-0607
Contact: Michael Tuma
Project Manager

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Archaeological and other heritage resources can be damaged or destroyed through uncontrolled public disclosure of information regarding their location. This document contains sensitive information regarding the nature and location of archaeological sites which should not be disclosed to the general public or unauthorized persons.

Information regarding the location, character, or ownership of a cultural resource is exempt from the Freedom of Information Act pursuant to 16 USC 470w-3 (National Historic Preservation Act) and 16 USC Section 470(h) (Archaeological Resources Protections Act).
MANAGEMENT SUMMARY

Purpose and Scope: SWCA Environmental Consultants (SWCA) was retained by Coffman Associates, to conduct a cultural resources study in support of the Apple Valley Airport Master Plan Project (project) in the high desert region of San Bernardino County, California. The project area is approximately 40 hectares (ha) (100 acres) in size, and is located approximately 9 kilometers (6 miles) north of the town of Apple Valley in San Bernardino County, California. SWCA’s study consisted of a record and literature search, Native American coordination, and an intensive pedestrian survey of the project area for cultural resources. This report documents the results of this study.

Dates of Investigation: SWCA initiated coordination with Native American groups and a cultural resources records search for the project on November 14, 2011. The Native American Heritage Commission responded on November 17, 2011; this response included a list of Native American contacts. Letters were sent to these Native American contacts on that same date. The San Bernardino Archaeological Information Center (SBAIC) completed the California Historical Resources Information System (CHRIS) records search on November 15, 2011, for the 40-ha (100-acre) project area. SWCA archaeologists conducted an intensive pedestrian survey of the project area from November 22 to 23, 2011. SWCA archaeologists recorded four historic-era archaeological sites and updated one previously recorded historic-era archaeological site on November 23, 2011. This report was completed in December 2011.

Findings of the Investigation: The CHRIS records search identified eight prior cultural resource studies within 0.8 km (0.5 mile) of the project area and two general overview studies. The two overview studies do not contain detailed information regarding the specific project area. Although the project area did not contain any previously recorded cultural resources, the CHRIS records search identified 11 such sites within 0.8 km (0.5 mile) of the project area. One of these sites, a historic-era rock feature (CA-SBR-6838H), is located 5 meters (16.4 feet) outside of the project area. During the cultural resources surveys, SWCA archaeologists identified four sites within the project area that had not been previously recorded. Each of the four sites (CA-SBR-15932H, CA-SBR-15933H, CA-SBR-15934H, and CA-SBR-15935H) consists of historic-era domestic refuse. No prehistoric materials or built environment resources dating to the ethnographic or historic periods were encountered in the survey.

Investigation Constraints: Ground visibility was generally good throughout the project area, and this study adequately identified the cultural resources in the project area.

Recommendations Summary: The results of this study indicate that the project area contains historical resources. However, the four newly recorded historic archaeological sites have been recommended ineligible for the California Register of Historical Resources (CRHR). Therefore, SWCA recommends no additional cultural resources work for this project at this time. However, in the event that cultural resources are discovered during construction grading, trenching, or excavation, project personnel should halt earth-moving activities in the immediate area and notify a qualified archaeologist to evaluate the resource.

Disposition of Data: This report will be on file with the following entities: the SBAIC located at the San Bernardino County Museum, Redlands; Coffman Associates; and SWCA. All field notes and records related to the current project are on file at the Pasadena Office of SWCA.
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INTRODUCTION

SWCA Environmental Consultants (SWCA) was retained by Coffman Associates to conduct a cultural resources study in support of the proposed Apple Valley Airport Master Plan (project). The project area consists of approximately 40 hectares (ha) (100 acres) of land located approximately 9 kilometers (km) (6 miles) north of the town of Apple Valley in the high desert region of San Bernardino County, California (Figure 1). The cultural resources study consisted of a cultural resources record and literature search, Native American consultation, cultural resources survey of the project area, and the preparation of a cultural resources technical report documenting the results of the inventory and providing management recommendations.

The study was completed to comply with the provisions of the California Environment Quality Act (CEQA), including the CEQA Statutes (Public Resources Code [PRC] §§ 21083.2 and 21084.1), the CEQA Guidelines (Title 14 California Code of Regulations [CCR], § 15064.5), and PRC § 5024.1 (Title 14 CCR § 4850 et seq.). These statutes and regulations, as amended, are summarized in an annually updated handbook (Association of Environmental Professionals 2011).

Properties expected to be directly or indirectly affected by a proposed project must be evaluated for California Register of Historical Resources (CRHR) eligibility (PRC § 5024.1). The purpose of the CRHR is to maintain listings of the state’s historical resources and to indicate which properties are to be protected, to the extent prudent and feasible, from material impairment and substantial adverse change. The term historical resources includes a resource listed in, or determined to be eligible for listing in, the CRHR; a resource included in a local register of historical resources; and any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (CCR § 15064.5[a]). The criteria for listing properties in the CRHR were expressly developed in accordance with previously established criteria developed for listing in the National Register of Historic Places (NRHP). The California Office of Historic Preservation (OHP 1995:2) regards “any physical evidence of human activities over 45 years old” as meriting recordation and evaluation.

According to PRC § 5024.1(c) (1–4), a resource may be considered historically significant if it retains integrity and meets at least one of the following criteria. A property may be listed in the CRHR if the resource

- is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- is associated with the lives of persons important in our past;
- embodies the distinctive characteristics of a type, period, region, or method of installation, or represents the work of an important creative individual, or possesses high artistic values; or
- has yielded, or may be likely to yield, information important in prehistory or history.

Under CEQA, if an archeological site is not a historical resource but meets the definition of a “unique archeological resource” as defined in PRC § 21083.2, then it should be treated in accordance with the provisions of that section. A unique archeological resource is defined as follows:

- An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information
- Has a special and particular quality, such as being the oldest of its type or the best available example of its type
- Is directly associated with a scientifically recognized important prehistoric or historic event or person

Resources that neither meet any of these criteria for listing in the CRHR nor qualify as a “unique archaeological resource” under CEQA PRC § 21083.2 are viewed as not significant. Under CEQA, “A nonunique archaeological resource need be given no further consideration, other than the simple recording of its existence by the lead agency if it so elects” (PRC § 21083.2(h)).

Impacts that adversely alter the significance of a resource listed in or eligible for listing in the CRHR are considered a significant effect on the environment. Impacts to historical resources from a proposed project are thus considered significant if the project 1) physically destroys or damages all or part of a resource, 2) changes the character of the use of the resource or physical feature within the setting of the resource, which contribute to its significance; or 3) introduces visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource.

This report was completed by SWCA archaeologist, Charles Cisneros, M.S., Registered Professional Archaeologist (RPA), and Michael Tuma, PhD, RPA. This report was reviewed for quality assurance/quality control (QA/QC) by Cultural Resources Principal Investigator, Colleen Zori, Ph.D. The project was managed by Michael Tuma, Ph.D., RPA. SWCA Cultural Resources Specialists, Charles Cisneros and John Covert, conducted the field survey of the project area. Geographic Information Systems (GIS) Analyst, Jennifer Roschek, B.S., prepared all of the report figures, and Technical Editor, Linda Tucker Burfitt, B.A., edited the report.

**Project Location**

The project area consists of approximately 40 ha (100 acres) of land located 9 km (6 miles) north of the town of Apple Valley in the high desert region of San Bernardino County, California (Figure 1 and Figure 2). Specifically, the project area is situated in Sections 21, 22, 27, 28, 33, and 34, Township 6 North, Range 3 West, of the Apple Valley North, California 7.5-minute U.S. Geological Survey (USGS) quadrangle. The project area is bounded by Papago Road to the south, the base of Bell Mountain to the west, an unpaved access road to the north, and the Fairview Mountains to the east.
Figure 1. Project location map (topographic).
Figure 2. Project location map (aerial).
Project Description

San Bernardino County and the owner and operator of Apple Valley Airport have initiated the preparation of a master plan update for the Apple Valley Airport to assess its existing and future role while also providing direction and guidance for future development. The update is designed to provide guidance for future development and provide updated justification for projects for which the airport may receive funding through participation in federal and state airport improvement programs. The county has hired Coffman Associates, an airport consulting firm that specializes in master planning and environmental studies, to complete the master plan update.

The master plan update is intended to be a proactive document that identifies and plans for future facility needs well in advance of the actual demand for the facilities. This is done to ensure that the San Bernardino County Department of Airports can coordinate project approvals, design, financing, and construction to avoid experiencing detrimental effects due to inadequate facilities. The Apple Valley Airport master plan update will be prepared in accordance with Federal Aviation Administration (FAA) requirements, including Advisory Circular 150/5300-13 (Airport Design, as amended) and Advisory Circular 150/5070-6B (Airport Master Plans).

The goal of the master plan is to accommodate the airport’s needs in an environmentally and fiscally responsible manner while adhering to appropriate safety design standards. Alternative development scenarios will be devised, each satisfying projected needs in a unique way. Coordinated review by a spectrum of stakeholders, including San Bernardino County, the Town of Apple Valley, California Department of Transportation (CALTRANS), the FAA, airport users, and the public, will result in a recommended development concept that will serve as a guide to realistic and achievable airport development. The plan will then act as a guide to aid local, state, and federal decision-makers when considering airport improvements.

An update to the master plan is necessary as a timely reassessment of the development direction of the airport to meet the needs of a dynamic local economy and an ever-changing air transportation industry. Airport master plans are commonly updated every five to ten years. The previous master plan for Apple Valley Airport was updated in 1992. An airport layout plan update was completed in 2006, which re-evaluated the airport’s needs. The current reassessment of the development direction will ensure that the airport is meeting the demands of general aviation users and continuing to be an economic asset to the region. The master plan update will include an evaluation of airport-related development areas with regard to aviation forecasts, demand/capacity, airport design standards, facility requirements, land use, costs, environmental reviews, and opportunities. It will also serve as a strategic tool for establishing airport improvement priorities and obtaining funding.

With an updated master plan in place, projects can be initiated when demand dictates the need for development. The forecasts will identify a timeline in which development might reasonably be anticipated; however, if activity does not materialize as quickly as forecast, then development envisioned by the master plan can be delayed accordingly. Conversely, if demand were to accelerate, projects could be initiated in advance of the timeline associated with the master plan. The San Bernardino County Department of Airports will monitor aviation activity at Apple Valley Airport annually to determine whether activity is tracking as projected and which projects from the master plan should be programmed into the airport’s five-year Capital Improvement Program. Each project will still need to be individually approved for funding and development, first by the County Board of Supervisors, then by the FAA.
ENVIRONMENTAL SETTING

The topography of the project area is virtually flat, with elevations ranging from 963 to 895 meters (m) (3,161 to 2,937 feet) above mean sea level (amsl) and a south-facing aspect along an approximate gradient of 20 percent (Figure 3). The project area is located in Apple Valley, approximately 9 km (6 miles) north of the town of Apple Valley and 2.7 km (1.7 mile) west of the Fairview Mountains.

Apple Valley is a broad, flat alluvial plain. According to the University of California Davis Soil Resource Laboratory, several types of soil have been mapped near the project area: Helendale loamy sand, 0–2 percent slopes; Helendale loamy sand, 2–5 percent slopes; Cajon sand, 0–2 percent slopes; and Cajon-Arizo complex, 10–15 percent slopes. All of the mapped soil types are moderately well drained, and most precipitation immediately infiltrates the ground; although surficial sheet flow may traverse the project area during periods of significant precipitation. Such flow in the project area eventually drains to a concrete culvert (Figure 4), just to the south of the project area.
Two substantial exposures of bedrock outcrops consisting of granite, quartz monzonite, and hornblende gabbro are located approximately 0.32 km (0.2 mile) and 0.9 km (0.58 mile) north of the project area. Both rock outcrops contain evidence of modern graffiti art (Figure 5).

The project area is situated in the southern Mojave Desert and is subject to the rain shadow of the San Bernardino Mountains. Annual precipitation ranges from 3.1 to 31.0 centimeters (cm) (1.22 to 12.2 inches), with an annual precipitation average of 13.7 cm (5.4 inches) (USGS Fact Sheet 117-03). Seasonal precipitation patterns consist of occasional winter storms powerful enough to cross the mountains, and summer monsoonal events that originate in the Gulf of Mexico.

Temperature in the Mojave Desert varies widely across the seasons and throughout individual days. Low winter temperatures can drop to below 18 degrees Celsius (°C) (0 degrees Fahrenheit [°F]) at some of the higher elevations, and below -7°C (20°F) in valley bottoms. Summertime temperatures can reach highs of above 49°C (120°F) in locations such as Death Valley and are commonly above 38°C (100°F) throughout the region.

The vegetation in the project area includes creosote, rabbit brush, annual grasses, and the occasional Joshua tree. Much of the habitat in the project area has been significantly impacted by human use, primarily from airport, residential, and industrial complexes.
CULTURAL SETTING

Prehistoric Overview

California’s southern desert region has a long history of human occupation, with dates of the earliest evidence of settlement falling during the early Holocene, ca. 10,000 years B.C. (Moratto 1984:96–97; Sutton et al. 2007:233–237). This now-arid region includes the Colorado and Mojave deserts, located east of the Sierra Nevada, Peninsular, and Transverse ranges. Prehistoric material culture in this region has been categorized according to periods or patterns that define technological, economic, social, and ideological elements. Within these periods, archaeologists have defined cultural patterns or complexes specific to prehistory within the desert region, including the project area.

Table 1 illustrates the chronological framework developed for the Mojave Desert. This framework is divided into three major periods: Paleoindian period (ca. 10,000–6000 B.C.), Archaic period (6000 B.C.–A.D. 1100), and Late Prehistoric period (A.D. 1100–Historic Contact). Within these broad temporal periods are variations in the timing and nomenclature of cultural complexes for the desert region. The timescales referenced in the following discussion are presented either in radiocarbon years before present (B.P.) (in which the “present” is 1950) or calendar dates (years B.C./A.D.), as well as geologic era. Some dates referenced in the text have been calibrated (cal) to convert raw radiocarbon years to calendrical dates.
Table 1. Cultural Chronology for the Mojave Desert

<table>
<thead>
<tr>
<th>Period</th>
<th>Cultural Complex</th>
<th>Years (B.C.–A.D.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paleoindian period/Western Pluvial</td>
<td>Lake Mojave and San Dieguito complexes</td>
<td>10,000–6000 B.C.</td>
</tr>
<tr>
<td>Lakes tradition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early Archaic period</td>
<td>Pinto complex</td>
<td>7000–3000 B.C.</td>
</tr>
<tr>
<td>Deadman Lake complex (at Twenty-nine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Palms)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Late Archaic period</td>
<td>Gypsum complex</td>
<td>2000 B.C.–A.D. 200</td>
</tr>
<tr>
<td>Late Archaic period</td>
<td>Rose Springs complex</td>
<td>A.D. 200–1100</td>
</tr>
<tr>
<td>Late Prehistoric period</td>
<td>Late Prehistoric complex</td>
<td>A.D. 1100–Historic Contact</td>
</tr>
</tbody>
</table>

**Paleoindian Period (~10,000–6000 B.C. [12,000–8000 B.P.])**

Discovery of the earliest human presence in the Americas, and for coastal and interior southern California, continues to be of interest to archaeologists and to the general public. The precise timing and nature of human entry into North America continues to be a matter of considerable debate (e.g., Adovasio 2002; Dillehay 1997; Jablonski 2002; Swedlund and Anderson 1999), with the first period of significant, recognized human occupation of the continent occurring toward the end of the Pleistocene, when the climate was cooler and moister than present (e.g., Antevs 1955; Major 1988). The environmental conditions supported large game animals such as mammoths, camels, and ground sloths. Human populations over much of the continent subsisted, albeit to varying degrees, on the exploitation of these mammals during this period. The characteristic artifacts associated with this period are Clovis and Folsom fluted projectile point types and other lanceolate, leaf-shaped, and stemmed projectile points such as Lake Mojave and Silver Lake.

Unequivocal evidence for pre-Clovis or Clovis inhabitants in California remains elusive. All of the purported pre-Clovis sites thought to break the Clovis barrier (i.e., before 11,500 B.P.), including China Lake (Davis 1975, 1978) and the Calico site (Leakey et al. 1972), have been rejected by scientists (Erlandson et al. 2007:54; Sutton et al. 2007:234). Fluted projectile points thought to be Clovis have been found in several localities throughout California, including the Mojave Desert (Pleistocene China and Thompson Lakes), but in each instance, there are lingering contextual questions that preclude identifying them as such (Rondeau et al. 2007:66). Consequently, it remains uncertain whether the people who made Clovis points inhabited California (but see Johnston et al. 2007), or whether later people made the Clovis-like fluted points or even scavenged them from elsewhere (Erlandson et al. 2007:56; Sutton et al. 2007:234).

Although occupation in California began as early as 8,000–11,000 years ago, evidence for the presence of humans prior to approximately 6000 B.C. (or 8000 years B.P.) is relatively sparse and scattered throughout the state. The earliest accepted dates for human occupation of southern California come from sites along the coast, particularly from two of the Northern Channel Islands situated off the coast of Santa Barbara. People living on the islands were part of a Paleo-Coastal tradition dependent on marine resources (e.g., Jones 1991; Jones et al. 2002). Sites on San Miguel and Santa Rosa islands (Daisy Cave and Arlington Springs) are dated between 11,500 B.P and 8600 B.P. (Erlandson 1991:105; Erlandson et al. 2007:57; Johnson et al. 2002). The island sites ultimately suggest that these early inhabitants used watercraft since at least the early Holocene, and ample evidence exists for a maritime-based subsistence
economy. Remains of consumed fish, shellfish, marine mammals, and seabirds are present in the archaeological record from these sites, along with fishhooks, cordage, basketry, and shell beads.

Located away from the coast in California, Paleoindians of the Western Pluvial Lakes tradition (WPLT) practiced a diverse mixture of hunting and gathering, but were not dependent on large Pleistocene megafauna as in other parts of North America at the time. A major occupational emphasis by WPLT peoples was on Pleistocene lakeshores in the now-arid areas of southern California, the western Great Basin, and along the Cascade-Sierra Nevada uplift that forms California’s eastern border (Moratto 1984:90–92).

The artifact assemblages of the WPLT, as first defined by Bedwell (1970), are characterized by leaf-shaped points and knives, crescents, and scrapers. WPLT sites are found near Pleistocene lakeshores in California, indicating a dependence on fowling and hunting of various animals. Moratto (1984:92) subsumed numerous local California patterns (e.g., San Dieguito complex, Lake Mojave complex) under the overarching WPLT to reduce terminological confusion, but the literature on California prehistory typically references the Paleoindian period, Early Man period, Lake Mojave complex, or San Dieguito complex, rather than the WPLT.

Moratto (1984:93) states that WPLT sites share certain characteristics, as follows:

- A tendency for sites to be located on or near the shores of former pluvial lakes and marshes or along old stream channels
- Dependence on hunting various animals, fowling, collecting, and gathering vegetal products
- An absence of ground stone artifacts such as milling stones, indicative of a presumed lack of hard seeds in the diet
- A developed flaked stone industry, marked especially by percussion flaked foliate (leaf-shaped) knives or points, Silver Lake and Lake Mojave points, lanceolate bifaces, and points similar to the long-stemmed variety from Lind Coulee (Hester 1973)
- A diverse tool kit, which commonly includes chipped stone crescents, large flake and core scrapers, choppers, scraper planes, hammer stones, several types of cores, drills, gravers, and diverse flakes

Continued research throughout the Mojave Desert, augmented by greater numbers of reliable radiocarbon dates, is yielding a growing corpus of sites dating to the Lake Mojave complex between 8000 and 6000 B.C. (Sutton et al. 2007:234–237). At site CA-INY-5825 at China Lake, an artifact-bearing paleosol has been dated to 7500 cal B.C., along with significant archaeological deposits associated with organic material dated between ca. 9700 and 9300 cal B.C. (Basgall 2004). Five components at Fort Irwin sites have been dated between ca. 9000 and 6000 cal B.C. (Basgall et al. 1994). Prior to these recent investigations, artifacts attributed to the Lake Mojave complex were mainly surface finds without precise ages.

A variety of site types has been identified in the Mojave Desert, including small camps and workshops, as well as some relatively large residential accumulations at Fort Irwin and China Lake (Sutton et al. 2007:237). Nonlocal tool stone and marine shell beads recovered from the sites indicate that long-distance transport was likely combined with extensive annual foraging ranges. Chipped stone artifacts were curated and had multiple uses. Although a few ground stone tools have been recovered, inconsistent and ephemeral wear patterns suggest that processed plant resources were a relatively minor part of the diet. Overall, the sites suggest that social units were comparatively small and engaged in a regular foraging pattern.
Faunal material recovered from the archaeological deposits at Fort Irwin indicates that people relied more on small animals (e.g., lagomorphs [hares and rabbits], rodents, and reptiles) than large game during this period in the Mojave Desert (see Sutton et al. 2007:237). It appears that patches rich in natural resources scattered within this environmental setting, rather than lakeside marshes, attracted human habitation, as people adapted to the relatively rapid desiccation of formerly large Pleistocene lakes. Except for more productive settings such as the China Lake Basin or likely along the drainage systems of the Sierra Nevada and Transverse ranges, occupation was relatively sporadic and short term, particularly in the interior desert.

With the onset of the early Holocene around 10,000 years ago, significant warming and drying occurred in the environment, and hunter-gatherers subsequently adapted their subsistence economy to the changing resource structure along the coast and interior deserts of California. Lakes and streams within the interior desert regions gradually dried and contracted, compared with late Pleistocene times. The WPLT way of life, which emphasized adaptations to lakes and marshes, gradually disappeared by 6000–5000 B.C. as the environment warmed during the Altithermal (Moratto 1984:91; Byrd and Raab 2007:217–218).

**Archaic Period (~7000 B.C.–A.D. 870/1100 [9000–1200/800 B.P.])**

Subsistence patterns shifted around 6000 B.C. coincident with the gradual desiccation associated with the onset of the Altithermal, a warm and dry period that lasted approximately 3,000 years (Antevs 1955). Greater emphasis was placed on plant foods and smaller animals during this time and into the subsequent Late Prehistoric period. Compared with the preceding Paleoindian period, subsistence practices were more diversified but focused on gathering activities in interior ecological areas, with a continued emphasis on a maritime economy in coastal areas (Erlandson 1997:4).

The Archaic period is generally characterized by an ecological adaptation to collecting. This resulted in an increased frequency of ground stone implements like milling stones (metates, slabs) and hand stones (manos, millers) for grinding edible resources such as nuts and seeds. Milling stones occur in large numbers for the first time during this period and become even more numerous near the end of this period.

A recent summary has proposed four divisions for the Archaic period in the Mojave Desert region, dividing the period between ca. 7000 B.C. and A.D. 1100 (Sutton et al. 2007:236):

1. Early Archaic/Pinto complex (7000–3000 B.C. [9000–5000 B.P.])
2. Early Archaic/Deadman Lake complex (7500–5200 B.C. [9500–7200 B.P.])
3. Late Archaic/Gypsum complex (2000 B.C.–A.D. 200 [4000–1700 B.P.])
4. Late Archaic/Rose Spring complex (A.D. 200–1100 [1700–800 B.P.])

The Early Archaic period/Pinto complex (7000–3000 B.C.) is followed by the Late Archaic period, except at Twentynine Palms. Proposed for the first time, the Deadman Lake complex occurs at the same time as the Pinto complex but only at Twentynine Palms. During the Late Archaic period, the Gypsum complex (2000 B.C.–A.D. 200) is followed by the Rose Spring complex (A.D. 200–1100). Sutton et al. (2007) also suggest that “complex” be used instead of “period” to denote a cultural manifestation rather than a temporal one. To avoid confusion with overlapping complexes with the same ages, that usage has been adopted here.

**EARLY ARCHAIC/PINTO COMPLEX (7000–3000 B.C. [9000–5000 B.P.])**

Widespread evidence for the Pinto complex has been recovered from sites throughout the Mojave Desert. Research conducted within the last two decades indicates that the inception of this period in California’s southeastern deserts overlapped with the end of the preceding prehistoric period (see Sutton et al.
Dates from sites at Fort Irwin (8340–3590 cal B.C.), Twentynine Palms (6870 cal B.C.), and the Garlock Fault site in Kern County (CA-KER-3939; 6300–4200 cal B.C.) support this conclusion.

Early Archaic artifact assemblages are characterized by Pinto series projectile points and shaped scrapers, as well as slab metates and manos. The presence of these ground stone implements, indicating a reliance on plant resources, is the greatest difference between the Pinto complex and the preceding Paleoindian period. Recent dates indicate that intensive plant processing began as early as ca. 7000 cal B.C. in the desert region, and as early as the Milling Stone period in coastal southern California. In addition to plants, faunal remains suggest an increased reliance on small animals, with an attendant decrease in larger artiodactyl (pronghorn, deer) bones in desert region sites during the Pinto complex (Sutton et al. 2007:238).

Sites with substantial cultural middens suggest the use of residential bases occupied for lengthy periods by relatively large populations likely comprising multiple families (Sutton et al. 2007:239–240). Access to plant resources may have determined the locations of these centralized sites, from which the occupants made logistical forays to collect nearby resources. Such a settlement pattern indicates that the local availability of natural resources was relatively predictable and stable from year to year during the Early Archaic. Reduction in the variety of tool stone recovered from Pinto complex sites, as compared with the preceding period, suggests that foraging ranges and/or trading relationships may have been less extensive; although, the presence of *Olivella* shell beads indicates a continued interaction with coastal groups.

**EARLY ARCHAIC/DEADMAN LAKE COMPLEX (7500–5200 B.C. [9500–7200 B.P.])**

To date, sites assigned to the Deadman Lake complex have only been found within Twentynine Palms, located in the southeastern Mojave Desert (Basgall and Giambastiani 2000; Basgall and Pierce 2004). These sites may reflect a closer cultural affiliation with the Southwest Archaic. As summarized by Sutton et al. (2007:239), artifact assemblages in this complex are characterized by small- to medium-size contracting stemmed or lozenge-shaped points, battered cobbles and core tools, milling implements, simple flake tools, and bifaces. A series of radiocarbon dates from three separate Deadman Lake complex archaeological components ranges from ca. 7500 to 5200 cal B.C., consistent with ages from a site in southwestern Arizona with similar projectile points (Sutton et al. 2007:239). The lithic assemblages include nonlocal and local tool stone, as well as *Olivella* shell beads from both the Sea of Cortez and the Pacific coasts, indicating economic contacts with these coastal regions.

Although there are some indications of ties with the Southwest, additional features of the Deadman Lake complex are similar to the contemporaneous Pinto complex. Faunal assemblages in two of the Deadman Lake complex components, including one at Emerson Lake and another deeply buried at Deadman Lake, are dominated by small animals (lagomorphs, rodents, and reptiles), similar to the Pinto complex sites at Twentynine Palms. The lithics are also similar to Pinto complex tools, and both complexes contain ground stone. Sutton et al. (2007) suggest that differences may reflect adaptations to resource availability at lower versus higher elevations, occupied by different populations with distinct seasonal scheduling. Alternately, instead of two different cultural complexes, Sutton et al. (2007) suggest that the Deadman Lake complex may be a variation of the Pinto complex.


The beginning of the Late Archaic/Gypsum complex in the Mojave Desert region coincides with the beginning of the Little Pluvial, a brief period of moister climatic conditions. Arid conditions returned, however, by the second half of the Gypsum complex. A wider range of diagnostic projectile points, such as the Gypsum and Elko types, as well as split-twig figurines that are sometimes preserved in caves, characterizes the archaeology of this period (Warren 1984:416–417). Manos and metates continued to be used, and mortars and pestles—which some suggest were used to process mesquite pods in this region
(e.g., Warren 1984:419)—appear in the archaeological record. The bow and arrow were introduced near the end of the Late Archaic period. There is an increased presence of nonlocal trade goods, including shell ornaments from the Pacific coast.

Within the Mojave Desert, relatively few stratified archaeological sites dating to the Gypsum complex have been identified (Sutton et al. 2007:241). Among the cultural material associated with this complex are rock art (Coso petroglyphs), paint, and quartz crystals. These features are indicative of ritual activities (Davis and Smith 1981; Warren and Crabtree 1986) and of an increase in trade and social complexity. Faunal remains indicate that small- and medium-size animals were exploited (artiodactyls, lagomorphs, and rodents). Subsistence and settlement patterns, particularly during the earlier, wetter part of this period, were dependent on streamsides (Sutton et al. 2007:241).

**LATE ARCHAIC/ROSE SPRING COMPLEX (A.D. 200–1100 [1700–800 B.P.])**

The introduction to the archaeological record of smaller projectile points, the Eastgate and Rose Spring series, defines the Late Archaic Rose Spring complex in the Mojave Desert and much of the western Great Basin (also called the Saratoga Springs complex; see Warren 1984:420). These smaller points likely mark the adoption of the bow and arrow. Within the Mojave Desert, archaeological evidence for this shift is most prevalent in the western part of the region (Sutton et al. 2007:241). In addition to the smaller projectile points, well-developed midden deposits at sites in the western Mojave typically include stone knives, drills, pipes, milling implements, bone awls, marine shell ornaments, and large quantities of obsidian. Faunal remains indicate a dependence on hunting of small- to medium-size game, but primarily lagomorphs and rodents.

Judging from the quantities of obsidian recovered from western Mojave Desert sites, this tool stone was obviously important to the regional occupants during the Rose Spring complex (Sutton et al. 2007:242). Sourced mainly to the Coso Volcanic Field in Inyo County, the former inhabitants of the western Mojave Desert sites either traveled to the source or obtained the obsidian by trade or exchange.

Sites dating to the early part of the Rose Springs complex are typically found adjacent to permanent water sources, including lakes and springs (see Sutton et al. 2007:241–242). Some evidence suggests that there was a shift to more mesic climatic conditions later in the period, with a rise in lake levels and the appearance of juniper woodlands. The large number of Rose Springs complex sites identified in the region, combined with the remains of more permanent villages, pit houses, wickiups, and other structural remains, suggest that the more productive ecological setting allowed for an expansion in regional population.

An unusually warmer and drier period known as the Medieval Climatic Anomaly (MCA), lasting from A.D. 800 to A.D. 1350, occurred midway during the Rose Spring complex, and the associated desiccation of lakes and other permanent water sources in the desert region coincides with a number of changes in material culture (Sutton et al. 2007:232, 242). Sites of this period are associated with ephemeral water sources. The large villages established ca. A.D. 1 (Sutton 1996; Whitley et al. 1988) declined in number and size and settlement patterns became more dispersed, allowing populations to adapt to the decrease in the availability of resources. The disappearance of the Rose Springs complex ca. A.D. 1100 was likely the result of the climatic and environmental changes brought about by the MCA.

**Late Prehistoric Period (A.D. 1100–Historic Contact [800 B.P.–Historic Contact])**

The Late Prehistoric period in the southern California deserts is characterized by a number of changes in subsistence, foraging, and land-use patterns, which begin to reflect the use pattern known from Historic
period Native American groups. The changes most likely reflect a combination of autochthonous cultural adaptations in response to shifts in environmental conditions and influences from outside the area. The introduction of ceramics to the archaeological record is the hallmark of this period. With the exception of the rudimentary ceramic industry found during the Early Archaic/Milling Stone period in Orange County, this is the first time that pottery is found in southern California sites.

The introduction of ceramics to the archaeological record of the Mojave Desert region begins after the end of the Rose Spring complex (Sutton 1996; Sutton et al. 2007:242), which places the beginning of the Late Prehistoric period in the greater project area ca. A.D. 1100. In additional to buff ware and brown ware ceramics, artifacts characteristic of this period in the Mojave Desert include Desert Side-notched projectile points, large triangular knives, shell and steatite beads, slate pendants, incised stones, and a variety of milling implements that include unshaped manos, milling stones, mortars, and pestles (Warren 1984; Warren and Crabtree 1986). Faunal remains indicate a dependence on hunting of small- to medium-size game, including lagomorphs, deer, rodents, and reptiles.

Compared with the earlier Rose Springs complex, the presence of tools manufactured from obsidian is significantly reduced, although they remain sourced mainly to the Coso Volcanic Field (Sutton et al. 2007:242). At the same time, silicate tool stone increased in importance to the regional occupants of the Mojave Desert during the Late Prehistoric period.

Perhaps due to the continuing influence of the MCA and the associated environmental deterioration, populations in the Mojave Desert region declined during the Late Prehistoric period (Sutton et al. 2007:242). At the same time, there was an increasing diversification in the food resource base, with terrestrial (and in coastal areas, maritime) hunting steadily complementing the collection of vegetal resources (Warren 1984:425–426). Material culture grew in complexity, with an increase in the classes and types of artifacts produced. Several types of small projectile points (Desert series) found in large numbers throughout the region reflect an elaboration of bow and arrow technology. Other items of material culture, some of them traded from the coast to the interior, include steatite containers, shell fishhooks, shell beads, other ornamental items, asphalt adhesive, perforated stones, and bone tools.

The wealth of numerous sites found along the Mojave River suggests that this was an increasingly important trade route, which was later noted during the historic era (Warren 1984:426). In Antelope Valley near Edwards Air Force Base, cemeteries and deep middens are associated with large pit house village sites. Agricultural influences in the Mojave Desert were apparently limited to the eastern portion of the desert (Sutton et al. 2007:242), with some evidence north of the Providence Mountains ca. cal A.D. 1. In the Muddy and Virgin river areas, Anasazi populations influenced a large portion of the northern Mojave Desert beginning ca. cal A.D. 700. Their influence in this area continued into the Late Prehistoric period.

It has been suggested that cultural complexes that emerged during the Late Prehistoric period may be related to recorded ethnographic groups, with the area north of the Mojave River being the boundary between the two (Warren 1984:Figure 8.26). Desert Side-notched and Cottonwood series projectile points, brown ware, and mainly Coso obsidian characterize the northern geographic area. Local obsidian, brown ware and buff ware, and mainly Cottonwood projectile points characterize the eastern geographic area. These differences closely reflect boundaries between ethnographically documented linguistic groups speaking the Numic, Takic, and Yuman languages: “[a] combination of both Desert side-notched and Cottonwood triangular points (Numic); Cottonwood triangular but no Desert side-notched points (Takic); and differences in brown ware (Numic and Takic) and buff ware (Yuman) ceramics” (Sutton et al. 2007:244). In the eastern Mojave Desert, there was apparently an influx by Puebloan groups ca. cal A.D. 500 into an area previously occupied by the Yuman Desert Mojave. The Chemehuevi, whose language
belongs to the Southern Numic branch of the Uto-Aztecan family, replaced the Puebloan and Desert Mojave groups across the eastern Mojave after ca. A.D. 1200.

**Ethnographic Overview**

According to ethnographic maps (Bean and Smith 1978:570; Kroeber 1976; Sutton et al. 2007:232), the project area falls within the traditional territory of the Serrano, south and southeast of the Kawaiisu and Kitanemuk groups respectively, and west of the Southern Paiute. Sutton et al. (2007) acknowledge that these boundaries are loosely defined due to the highly mobile nature of desert subsistence, and previous researchers have presented a variety of alternatives (e.g., Baksh 1997).

The Serrano language is part of the Serran division of a branch of the Takic family of the Uto-Aztecan linguistic stock (Mithun 2006:539, 543). The two Serran languages, Kitanemuk and Serrano, are closely related. Kitanemuk ethnographic lands were located to the northwest of the Serrano. Other neighboring Takic-speaking groups include the Tataviam and Gabrielino (or Tongva) to the west, and the Cahuilla to the south. The Kawaiisu and Chemehuevi, located north and east of the Serrano, respectively, spoke languages that belong to the Numic branch of the Uto-Aztecan family. Serrano was originally spoken by a relatively small group located within the San Bernardino and Sierra Madre mountains, and the term Serrano has come to be ethnically defined as the name of the people in the San Bernardino Mountains (Kroeber 1976:611). The Vanyume, who lived along the Mojave River and adjacent Mojave Desert areas and are also referred to as the Desert Serrano, spoke either a dialect of Serrano or a closely related language (Mithun 2006:543).

The Serrano occupied an area in and around the San Bernardino Mountains between approximately 450 and 3,350 m (1,500–11,000 feet) amsl. Their territory extended west into the Cajon Pass, east as far as Twentynine Palms, north past Victorville, and south to the Yucaipa Valley. Year-round habitation tended to be located out on the desert floor, at the base of the mountains, and up into the foothills (Bean and Smith 1978; Kroeber 1908b).

Serrano territory was a trade nexus between inland tribes and coastal tribes. Ethnohistory also suggests that the Serrano played a role in the trade of horses from the southwest to the California coast during the Historic period (Bean and Vane 2002). Despite the large geographic extent of shared material culture and control of significant travel corridors, the politically autonomous structure and function of the village unit and absence of an overarching political organization have precluded the identification of the Serrano as a unified “tribe,” because that word is defined as a unit of people with a common political leadership (Kroeber 1976:617; Strong 1929:14).

Most Serrano lived in small villages located near year-round water sources (Bean and Smith 1978:571; Kroeber 1908b). Houses measuring 3.7–4.3 m (12–14 feet) in diameter were domed and constructed of willow branches and tule thatching. The interiors were lined with tule mats. Each house was occupied by a single extended family, comprising a husband, wife (or wives), children, grandparents, and perhaps a widowed aunt or uncle, and was a central family unit gathering place for sleeping and storage. Much of the daily routine occurred outdoors in the open or under square ramadas constructed of at least four posts, cross-beams, and tule-thatched roofs. Many villages had a ceremonial house, used both as a religious center and the residence of the lineage leaders. When hunting, the men would sometimes construct individual dwellings away from the village. Additional structures within a village might include granaries and a large circular subterranean sweathouse. The sweathouses were typically built along streams or pools.

A village was usually composed of at least two lineages, referred to as a lineage set. In each village, one lineage tended to be more powerful than the other. Lineages tended to rise and fall in dominance. The
lineages in a set could intermarry and shared ties of both economic reciprocity and ritual obligation. Lineage sets shared the ceremonial house and ceremonial bundle, and religious ceremonies were conducted by the dominant lineage’s religious leader with the religious leader of the second set acting as assistant. The Serrano were loosely organized along patrilineal lines and associated themselves with one of two exogamous moieties or “clans”—the *Wahiyam* (coyote) or the *Tukum* (wildcat) moiety.

The fundamental economy of the Serrano was one of subsistence hunting and collecting plants, with occasional fishing (Bean and Smith 1978:571). Large and small animals were hunted, including mountain sheep, deer, antelope, rabbits, small rodents, and various birds, particularly quail. Plant staples consisted of seeds; acorn nuts of the black oak; piñon nuts; bulbs and tubers; and shoots, blooms, and roots of various plants, including yucca, berries, barrel cacti, and mesquite. Fire was used as a management tool to increase yields of specific plants, particularly chía.

Trade and exchange were important aspects of the Serrano economy. Those living in the lower-elevation, desert floor villages traded foodstuffs with people living in the foothill villages who had access to a different variety of edible resources. In addition to intervillage trade, ritualized communal food procurement events, such as rabbit and deer hunts and piñon, acorn, and mesquite nut-gathering events, integrated the economy and helped distribute resources that were available in different ecozones.

A variety of materials was used for hunting, gathering, and processing food, and also for shelter, clothing, and ceremonial items. Shell, wood, bone, horn, stone, plant materials, animal skins, and feathers were used for making money, baskets, rabbit-skin blankets, mats, nets, and bags. The Serrano made pottery and used it daily to carry and store water or foodstuffs. Ceramics were also used as ceremonial objects. They also made awls, sinew-backed bows, arrows, arrow straighteners, throwing sticks (for hunting), traps, fire drills, stone pipes, musical instruments of various types (rattles, rasps, whistles, bull-roarers, and whistles), yucca fiber cordage (for snares, nets, and carrying bags), and clothing (Bean and Smith 1978:571; Bean and Vane 2002). A strong tradition of basket weaving incorporated the use of juncus sedge, deergrass, and yucca fiber. Foods were cooked either in earth ovens, in watertight baskets using heated cooking rocks and constant stirring, or by parching through use of hot embers and a constant tossing motion of shallow trays containing the grains. Animal bones were boiled and then cracked for access to the marrow. A variety of methods were used in the drying and preserving of foods for later consumption.

Prior to Spanish occupation of Serrano lands, cremation of the human body and the deceased’s possessions was practiced. The completion of the death cycle involved a week-long ceremony that included ritualized gift-giving, feasting, naming, public display of the lineage set ceremonial bundle, an eagle killing and dance ceremony, and a final burning of an effigy depicting the deceased.

Contact between Serrano and Europeans was relatively minimal prior to the early 1800s, mainly due to the inland location of the territory that Serrano occupied beyond Cajon Pass. As early as 1790, however, Serrano began to be drawn into mission life (Bean and Vane 2002). More Serrano were relocated to Mission San Gabriel in 1811 after a failed indigenous attack on that mission. Most of the remaining western Serrano were moved to an *asistencia* built near Redlands in 1819 (Bean and Smith 1978:573). By 1834, most western Serrano had been moved to the missions, with some Serrano possibly moved to the mission at San Fernando Rey (Kroeber 1908a). Only small groups of Serrano remained in the area northeast of the San Gorgonio Pass and were able to preserve some of their native culture.

In the 1860s, a smallpox epidemic killed many indigenous southern Californians, including the Serrano (Bean and Vane 2002). Oral history accounts of a massacre in the 1860s at Twentynine Palms may have been part of a larger American military campaign in the region that lasted 32 days (Bean and Vane 2002:10). Surviving Serrano sought shelter at Morongo with their Cahuilla neighbors; Morongo later became a reservation (Bean and Vane 2002). Other survivors followed the Serrano leader Santos Manuel.
down from the mountains and toward the valley floors, and eventually settled in what later became the San Manuel Band of Mission Indians Reservation. This reservation was established in 1891 (San Manuel Band of Mission Indians 2008).

In 2004, most Serrano lived either on the Morongo or San Manuel reservations (California Indian Assistance Program 2003). The Morongo Band of Mission Indians of the Morongo Reservation, established through presidential executive orders in 1877 and 1889, includes both Cahuilla and Serrano and totaled 1,097 tribal members in 2004. The reservation covers 32,718 acres of land in both consolidated and checkerboard patterns. Established in 1893, the San Manuel Band of Mission Indians included 84 Serrano tribal members in 2004 and covered 658 acres. Both Morongo and San Manuel are federally recognized tribes. People of both tribes participate in cultural programs to revitalize traditional languages, knowledge, and practices.

Historic Overview

Post-contact history for the state of California is generally divided into three periods: 1) the Spanish period (1769–1822), 2) Mexican period (1822–1848), and 3) American period (1848–present). Although there were brief visits by Spanish, Russian, and British explorers from 1529 to 1769, the Spanish period in California began with the establishment of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain marks the beginning of the Mexican period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican–American War, signals the beginning of the American period, when California became a territory of the United States.

Spanish Period (1769–1822)

Spanish explorers made sailing expeditions along the coast of southern California between the mid-1500s and mid-1700s. In search of the legendary Northwest Passage, Juan Rodríquez Cabrillo stopped in 1542 at present-day San Diego Bay. With his crew, Cabrillo explored the shorelines of present-day Catalina Island, and San Pedro and Santa Monica bays. Much of the present California and Oregon coastline was mapped and recorded in the following half-century by Spanish naval officer Sebastián Vizcaíno. Vizcaíno’s crew also landed on Santa Catalina Island and at San Pedro and Santa Monica bays, giving each location its long-standing name. The Spanish crown laid claim to California based on the surveys conducted by Cabrillo and Vizcaíno (Bancroft 1886:96–99; Gumprecht 1999:35).

Inland exploration and colonization of Alta California by Spain would not be a priority for more than 200 years. The 1769 overland expedition by Captain Gaspar de Portolá marks the beginning of California’s Historic period, occurring just after the king of Spain installed the Franciscan Order to direct religious and colonization matters in assigned territories of the Americas. With a band of 64 soldiers, missionaries, Baja (lower) California Native Americans, and Mexican civilians, Portolá established the Presidio of San Diego, a fortified military outpost, as the first Spanish settlement in Alta California. Also in July 1769, Franciscan Fr. Junípero Serra founded Mission San Diego de Alcalá at Presidio Hill, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823.

Although Pedro Fages traveled near the Cajon Pass as early as 1772, the first known Spanish explorer to enter the area that would become San Bernardino County was Fr. Francisco Garcés, traveling west from the Colorado River in 1776 (Hoover et al. 2002:321). Fr. Garcés traveled as far as the Pacific coast along an ancient trade route, known as the Mojave Trail, and he named the Mojave River the Arroyo de los Mártires (River of the Martyrs). The river was later named Rio de las Animas (River of Souls) by Fr. Joaquin Pasqual Nuez, who accompanied the 1819 expedition of Lt. Gabriel Moraga. The San Bernardino
Valley was named in 1810 by the Franciscan missionary Francisco Dumetz, who led a party from the San Gabriel Mission into the valley in observance of the Feast of St. Bernardine of Siena.

The series of 21 missions established by the Spaniards was situated parallel to the California coastline between San Diego and Sonoma. Near-coastal locations were preferred by the Europeans for colonization because they were easier to defend and supply from ships and were also bordered by populous Native American villages with potential converts. Although present-day San Bernardino County did not formally host Spanish missions, the region remained connected to the California presidio and mission system through the Franciscan rancho and asistencia outposts. Near today’s city of Redlands in San Bernardino County, the San Bernardino de Sena Estancia (also known as the San Bernardino Rancho) was established in 1819 for grazing cattle owned by the Mission San Gabriel Arcángel.

**Mexican Period (1822–1848)**

A major government objective during the Spanish period in California was to build missions and associated presidios to integrate the Native American population into Christianity and communal enterprise. Inducements were also made to bring settlers to pueblos or towns, but just three pueblos were established during the Spanish period. Only two of these were successful and are now major California cities: San José and Los Angeles. The threat of foreign invasion, political dissatisfaction, demands for land by civilian settlers and retiring soldiers, and unrest among the indigenous population kept growth within Alta California to a minimum. After more than a decade of intermittent rebellion and warfare, New Spain (Mexico and the California territory) won independence from Spain in 1821. In 1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade, and decreed California ports, including San Diego, open to foreign merchants (Dallas 1955:14).

During this period, trappers and explorers from the eastern United States journeyed westward. Jedediah Strong Smith was among these early American adventurers. He traveled through the project vicinity in 1826 and 1827 and nicknamed the Mojave River the “Inconstant River” because it frequently disappeared beneath the surface.

The influence of the California missions waned in the late 1820s through the early 1830s. As one consequence, extensive land grants in the interior were initiated in the Mexican period, in part to increase the population away from the more settled coastal areas where the Spanish had concentrated their colonization efforts. Following adoption of the Secularization Act of 1833, the Mexican government privatized most Franciscan lands, including holdings of their California missions. By 1836, this sweeping political and economic process effectively reduced the California missions to parish churches and released their vast landholdings. Although earlier secularization schemes had called for redistribution of lands to Native American neophytes who had been responsible for construction of the mission empire, the vast mission lands and livestock holdings were instead redistributed by the Mexican government through several hundred land grants to private, non-Native American ranchers (Langum 1987:15–18).

In the Mexican period, the large ranchos became important economic and social centers. Some 20 ranchos covering nearly 202,342 ha (500,000 acres) were granted in northwestern Riverside and southwestern San Bernardino counties. These included Ranchos El Rincón and Jurupa, which straddled both of today’s counties, and Cucamonga, Santa Ana, and San Bernardino in San Bernardino County.

During the primacy of the ranchos (1834–1848), landowners largely focused on the cattle industry and devoted large tracts to grazing. Cattle hides became a primary southern California export, providing a commodity to trade for goods from the east and other areas in the United States and Mexico. The non-Native American population of California increased during this period because of the influx of explorers, trappers, and ranchers associated with the land grants. The rising California population unfortunately
contributed to the introduction and rise of diseases foreign to the Native American population, who had no associated immunities. Large numbers of native peoples in the Central Valley, for example, died of disease between 1830 and 1833, and disease exterminated whole tribes along the American, Merced, Tuolumne, and Yuba rivers. The Central Valley was hit by a second epidemic in 1837, which further decimated indigenous Californians (Cook 1955).

American Period (1848–Present)

The Mexican–American War ended with the Treaty of Guadalupe Hidalgo, signed in 1848, ushering California into its American period. Horticulture and livestock, based primarily on cattle as the currency and staple of the rancho system, continued to dominate the southern California economy through the first decade of the Gold Rush beginning in 1848. California became one of the United States with the Compromise of 1850, which also designated Utah and New Mexico (encompassing present-day Arizona) as U.S. territories. San Bernardino County was organized from parts of Los Angeles and San Diego counties in April 1853, and the city of San Bernardino became the county seat in 1854. Although portions of San Bernardino and San Diego counties were used to create Riverside County in 1893, San Bernardino County remains the largest county in California and in the United States.

During the Gold Rush, thousands of people traveled the Gila Trail or Southern Overland Trail from Texas to Arizona, then crossed the Colorado River at present-day Yuma into California and proceeded across the Colorado Desert to the San José Valley. The main trail continued from that point northward to Temecula and Los Angeles. Many left the main trail and traveled southward to San Diego, where they then journeyed via ship to San Francisco or took the inland coastal route to Los Angeles, rejoining the main trail to the gold fields. Thousands more traveled the Mojave River Trail, named the Old Spanish Trail by Captain John C. Frémont in 1844. Starting in Santa Fe, New Mexico, and continuing through Utah and Arizona, the trail then crossed the Mojave Desert to reach the Mission San Gabriel Arcángel and the Pueblo de Los Ángeles. Northeast of Victorville, near today’s community of Daggett, a group of Native Americans told Frémont they had lived along the Mojave River and the mountains to the north, and traded with other indigenous peoples in the region along the Mojave River Trail. Frémont’s account is the first to use the name Mojave River (Frémont 1845:260).

With the influx of people seeking gold, cattle were no longer desired mainly for their hides but also as a source of meat and other secondary products. During the 1850s cattle boom, rancho vaqueros drove large herds from southern to northern California to feed that region’s burgeoning mining and commercial boom. Cattle were at first driven along major trails or roads such as the Gila Trail or Southern Overland Trail, then were transported by trains where available. Operation of the huge ranchos became increasingly difficult, as neighbor states and territories drove herds to northern California at reduced prices and as droughts severely reduced their productivity, ending the cattle boom for southern California.

American politics and the need for a mild-winter route to the west favored a southerly thoroughfare from the eastern United States to California in the 1850s. The U.S. Gadsden Purchase of 1854 secured additional land from Mexico for this route, and by 1857, surveys established the current international boundary from New Mexico west to California (Walker and Bufkin 1986). In 1857, the government awarded to James E. Birch a mail contract for a 2,374-km (1,475-mile) route linking San Antonio, Texas, and San Diego, California. With the post carried primarily on mule-back through the deserts of southern California, the contractor’s “Jackass Mail” passed through the Imperial Valley on its two-month-long round-trips. In 1858, the federal contract passed to the Butterfield Overland Mail Company. With the start of the Civil War in 1861 and departure of Southern representatives from Congress, the U.S. government cancelled Butterfield’s contract and suspended talks on a southern transcontinental rail route.
Wagon roads and railroads constructed across California’s Colorado and Mojave deserts from the 1840s to the 1870s connected coastal California with the rest of the county. These modes of transport served to carry mail, prospectors, miners, entrepreneurs, merchants, immigrants, laborers, muleteers, settlers, and military personnel as well as civilian and military supplies, livestock, produce, timber, and minerals produced by desert mines, among other necessities. The construction of permanent roadways across the desert trails and wagon roads accompanied the increased use of the automobile at the turn of the twentieth century.

In addition to the Mojave River Trail (Old Spanish Trail) and the southern Yuma route (Gila Trail, Southern Overland Trail, Butterfield Stage Route), the earliest historic routes that traversed the California deserts from the west to the Colorado River included Brown’s Wagon Road, the Bradshaw Trail, and Brown and Frink’s Road. Sometime prior to 1855, Hank Brown blazed the first east-west wagon road across Riverside County from west of Dos Palmas Spring (southeast of Mecca) through Salt Creek Pass (formerly Brown’s Pass) to the Colorado River (Gunther 1984:73). The Bradshaw Trail, which was opened in 1862 by William D. Bradshaw, was the first road to traverse Riverside County (Bureau of Land Management 2004). Beginning in the west in San Bernardino, the trail skirted the northern edge of the highstand beach line of Holocene Lake Cahuilla in the Coachella Valley and continued east across the desert to the Colorado River at La Paz, Arizona (today’s Ehrenberg). Established as an overland stage route, miners and other passengers journeyed via stage coach over the Bradshaw Trail from San Bernardino to the gold fields at La Paz. Use of the trail peaked between 1862 and 1877. The route established by Brown was later incorporated into Frink’s Road in 1863 (Warren and Roske 1981:17). Referred to as the cutoff from the Bradshaw Trail, Frink and Brown’s wagon route was shorter and less sandy.

Following the Civil War, overland stage services to and from southern California resumed in 1868 with the Holladay and Wells Fargo operations (Nevin 1974; Stein 1994). The pre–Civil War national initiative for a southern transcontinental railroad route resumed during the 1870s, as the Texas and Pacific (T&P) Railway Company in 1871 received a federal charter and conducted transcontinental surveys to pursue the initiative. In 1873, however, the T&P’s westerly construction stalled in north-central Texas. The resulting delay was critical, allowing San Francisco investors to extend their own Southern Pacific Railroad (SPRR) through Imperial Valley to the Colorado River in 1877, bridging the river at Yuma into Arizona along the T&P survey in 1878 (Yenne 1985). The SPRR had already reached the extreme southwest corner of San Bernardino County in 1876. The Atlantic and Pacific (later the Atchison, Topeka, and Santa Fe; now the Burlington Northern Santa Fe) Railroad soon crossed the central part of the county, the Southern California Railway linked Barstow to San Diego in 1885, and San Bernardino was connected to the eastern states in 1887 via the Atchison, Topeka, and Santa Fe via Barstow and Needles.

The first highways across the Mojave Desert followed the Cajon Pass-Barstow-Needles route used by the Southern California Railway and the Atchison, Topeka, and Santa Fe. Established in 1912, the Ocean-to-Ocean Highway, now known as the National Old Trails Road, stretched from Baltimore, Maryland, to California. The route across the California deserts followed the Mojave River/Old Spanish Trail through Needles and Barstow to San Bernardino. The majority of U.S. Route 66, established in 1926, largely followed the Ocean-to-Ocean Highway, passing through the desert region south of Needles on its way across the country to Los Angeles. After U.S. Route 66 was decommissioned in 1985, parts of it became Interstate 40 and Interstate 15. Remains of the route in several western states, including California, have been designated a National Trails Highway. Other important highways that crossed through the region included the Randsburg/San Bernardino Road, which was added to the state system of secondary highways in 1933 and designated State Route 145. The highway was designated U.S. Route 395 two years later.
Apple Valley Airport History

The Apple Valley Airport was originally built as a small landing strip in the late 1940s near the corner of Wakita Road and Highway 18. From 1948 to 1969, more than 200 planes landed there each week (Lovato 2007; 65). The original airport was also located adjacent to the Apple Valley Inn, owned by Roy Rogers and Dale Evans. As the town of Apple Valley expanded around the original airport, a new site was chosen 3-miles to the northeast to allow for a longer runway. The new Apple Valley County Airport (Figure 6) was designed by architect Bud Seagondollar and officially opened to the public in 1970 (Terry Stover, personal communication 2011).

Since then the airport has supported a variety of aviation activities including flight training, aerial law enforcement, aircraft maintenance, acrobatic/sport aircraft, aircraft rental, and aircraft storage (Figure 7). A significant feature of the airport is the memorial (Figure 8), located in front of the airport entrance. The memorial is dedicated to Captain Joseph McConnell, a top American flying Ace during the Korean War credited with shooting down 16 Mig-15s while flying North American F-86 Sabres with the U.S. Airforce.
Figure 7. Aircraft maintenance and storage (view to the southwest).

Figure 8. Memorial dedicated to Captain Joseph McConnell (view to the northwest).
BACKGROUND RESEARCH

California Historical Resources Information System Records Search

The San Bernardino Archaeological Information Center (SBAIC), located at the San Bernardino County Museum, houses records of the California Historical Resources Information System (CHRIS) for San Bernardino County. SWCA requested a CHRIS cultural resources records search for the 40-ha (100-acre) project area on November 14, 2011. The records search included a 0.8-km (0.5-mile) radius around the project area, and was conducted by SBAIC staff. The purpose of the literature search was to identify prehistoric or historic archaeological sites or historic buildings and structures previously recorded within and around the project area. SBAIC staff also reviewed the NRHP and Archaeological Determinations of Eligibility as well as numerous historic maps for the presence of possible historic structures or archaeological site locations, covering a date range from 1892 through 1957. The records were reviewed to 1) identify cultural resources within the project area and surrounding area, 2) identify and determine the adequacy of previous cultural resources studies in the project area, 3) develop management recommendations for cultural resources within or adjacent to the project area, and 4) assess what additional cultural resources studies would need to be undertaken for the proposed project.

Prior Cultural Resources Studies within 0.8 km (0.5 mile) of the Project Area

The records searches identified a total of eight prior cultural resources studies within 0.8 km (0.5-mile) of the project area, and two general overview studies. One of the cultural resource studies (SBAIC Report No. 1066859) is a block and linear survey that crossed the current project area in 2010. The remaining seven cultural resources studies were located to the south, southeast, southwest, north, northeast and northwest of the project area and are all within 0.8 km (0.5 mile) of the project boundaries. Although unlikely to contain detailed information regarding the specific project area, the two overview studies were reviewed as well. The prior studies are listed in Table 3, and the records search results summary letter from SBAIC is presented in Appendix A.
<table>
<thead>
<tr>
<th>SBAIC Report Number</th>
<th>Author</th>
<th>Year</th>
<th>Study</th>
<th>Proximity to Project Area and 0.8-km (0.5-mi) Buffer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1062164</td>
<td>Bean, Lowell John and Sylvia Brakke Vane</td>
<td>1979</td>
<td>Lucerne Valley Project: Ethnographic and Historical Resources. Cultural Systems Research.</td>
<td>Overview</td>
</tr>
<tr>
<td>1062168</td>
<td>White, David R.M.</td>
<td>1986</td>
<td>An Archaeological Reconnaissance (Negative Declaration) For The Proposed Corwin Substation, San Bernardino County, California.</td>
<td>Within</td>
</tr>
<tr>
<td>1062278</td>
<td>Sundberg, Frederick A, and Nancy Sundberg</td>
<td>1991</td>
<td>Archaeological and Paleontological Survey For the Apple Valley Airport Master Plan, San Bernardino County, California. Scientific Resource Surveys.</td>
<td>Within</td>
</tr>
<tr>
<td>1062694</td>
<td>Torres, John et al.</td>
<td>1992</td>
<td>Cultural Resources Sensitivity Study of the Mojave River Corridor, San Bernardino County, CA.</td>
<td>Overview</td>
</tr>
<tr>
<td>1063123</td>
<td>Parr, Robert E.</td>
<td>1996</td>
<td>An Archaeological Assessment of the Aztec Road Extension and Overlay and Sewer Pipeline Extension Project; Town of Apple Valley, CA.</td>
<td>Within</td>
</tr>
<tr>
<td>1063677</td>
<td>White, Robert and Laurie White</td>
<td>2001</td>
<td>A Cultural Resource Assessment of the 300 Acre Pluto Development, Inc Property SE Corner of Johnson Road and Dale Evans PKWY, Town of Apple Valley, San Bernardino County, CA.</td>
<td>Within</td>
</tr>
<tr>
<td>1064557</td>
<td>Dice, Michael</td>
<td>2002</td>
<td>An Archaeological and Paleontological Resources Assessment of 13,700' Navajo Road Sewer Project, Town of Apple Valley, CA.</td>
<td>Within</td>
</tr>
<tr>
<td>1066859</td>
<td>Tang, Bai “Tom” and Michael Hogan</td>
<td>2010</td>
<td>Identification and Evaluation of Historic Properties, Town of Apple Valley and City of Hesperia Wastewater Reclamation Plants and Related Facilities Project, Victor Valley Area, CA.</td>
<td>Within</td>
</tr>
</tbody>
</table>

Previously Recorded Cultural Resources within 0.8 km (0.5 mile) of the Project Area

The records searches identified 11 previously recorded cultural resources within 0.8 km (0.5 mile) of the project area (Table 4). Of these, none were identified within the project area. However, one site, a historic U-shaped rock alignment feature (CA-SBR-6838H), is located just 5 m (16.4 feet) outside of the project area.
Table 3. Previously Recorded Cultural Resources within 0.8 km (0.5 mile) of the Project Area

<table>
<thead>
<tr>
<th>Primary Number</th>
<th>Trinomial</th>
<th>Resource Description</th>
<th>NRHP/CRHR Eligibility</th>
<th>Recorder and Year</th>
<th>Proximity to Project Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>36-006839</td>
<td>CA-SBR-6839H</td>
<td>Historic: wood-lined pit</td>
<td>Ineligible</td>
<td>J. Sanka 2006</td>
<td>Outside</td>
</tr>
<tr>
<td>36-006840</td>
<td>CA-SBR-6840H</td>
<td>Historic: wood-lined square pit</td>
<td>Ineligible</td>
<td>Sundberg, F and J. Des’ Autels 1990</td>
<td>Outside</td>
</tr>
<tr>
<td>36-006841</td>
<td>CA-SBR-6841H</td>
<td>Historic: trash scatter</td>
<td>Ineligible</td>
<td>Sundberg, F and J. Des’ Autels 1990</td>
<td>Outside</td>
</tr>
<tr>
<td>36-006842</td>
<td>CA-SBR-6842H</td>
<td>Historic: trash scatter</td>
<td>Ineligible</td>
<td>J. Sanka 2006</td>
<td>Outside</td>
</tr>
<tr>
<td>36-006843</td>
<td>CA-SBR-6843H</td>
<td>Historic: trash scatter</td>
<td>Ineligible</td>
<td>Sundberg, F and J. Des’ Autels 1990</td>
<td>Outside</td>
</tr>
<tr>
<td>36-10860</td>
<td>CA-SBR-10860</td>
<td>Prehistoric: artifact scatter</td>
<td>Ineligible</td>
<td>Dice, M. 2002</td>
<td>Outside</td>
</tr>
<tr>
<td>36-021470</td>
<td>CA-SBR-13782</td>
<td>Multicomponent: historic-era trash and prehistoric artifact scatter</td>
<td>Ineligible</td>
<td>Ballester, D. 2010</td>
<td>Outside</td>
</tr>
<tr>
<td>36-012857</td>
<td>–</td>
<td>Hole-in-top can</td>
<td>Ineligible</td>
<td>J. Sanka 2006</td>
<td>Outside</td>
</tr>
<tr>
<td>36-061206</td>
<td>–</td>
<td>Chert flake</td>
<td>Ineligible</td>
<td>Sundberg, F and J. Des’ Autels 1990</td>
<td>Outside</td>
</tr>
<tr>
<td>36-061207</td>
<td>–</td>
<td>Chert flake</td>
<td>Ineligible</td>
<td>Sundberg, F and J. Des’ Autels 1990</td>
<td>Outside</td>
</tr>
</tbody>
</table>

**Historic Map Review**

A review of historic maps confirmed that the project area is partially within the boundaries of the historic Oro Grande Silver Mining District. In addition, several possible historic structure/archaeological site locations may be present within the SBAIC record search area. Thirty-six small buildings, most likely residences, appear near the project area on the USGS 1957 Apple Valley 15-minute quadrangle.

**Native American Coordination**

On November 14, 2011, SWCA requested that the Native American Heritage Commission (NAHC) conduct a search of its Sacred Lands File to determine if cultural resources important to Native Americans have been recorded in the project area. The NAHC provided a list of ten Native American contacts for the project that may have knowledge of cultural resources near the project area. SWCA prepared and mailed a letter to each of the NAHC-listed contacts on November 24, 2009, requesting information related to any
Native American cultural resources within or immediately adjacent to the project area. Documentation related to Native American consultation is found in Appendix B.

On November 17, 2011, SWCA received a response from the NAHC stating that the search of its Sacred Lands File did not indicate the presence of Native American cultural resources within 0.8 km (0.5 mile) of the project area.

To date, SWCA has received no responses to the letters that were sent to the NAHC-listed contacts (see Appendix B).

METHODS

Field Survey

SWCA archaeologists, Charles Cisneros and John Covert, surveyed the 40-ha (100-acre) project area from November 22–23, 2009. The entire project area was surveyed by walking north-south linear transects spaced no more than 15 m (49 feet) apart. The archaeologists examined the ground surface for the presence of prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools), historic artifacts (e.g., metal, glass, ceramics), sediment discoloration that might indicate the presence of a cultural midden, and depressions and other features indicative of the former presence of structures or buildings (e.g., post holes, foundations). SWCA archaeologists maintained transect accuracy and recorded the location of cultural resources in the project area using a Trimble global positioning system (GPS) receiver with sub-meter accuracy.

California Department of Parks and Recreation (DPR) series 523 forms, a field notebook, and a digital camera were used to record resource characteristics and survey conditions. Copies of the field notes and digital photographs are on file at the SWCA Pasadena Office.

RESULTS

Field Survey and Resource Evaluations

SWCA archaeologists identified four previously unrecorded historic-era archaeological sites in the project area (CA-SBR-15932H, CA-SBR-15933H, CA-SBR-15934H, and CA-SBR-15935H), and updated one previously recorded cultural resource that occurred 5 m (16 feet) outside of the project area (CA-SBR-6838H) (Table 5, Figure 9). Detailed descriptions of these resources are found below and on the DPR series 523 forms attached as confidential Appendix C. This section also presents SWCA’s evaluation of the significance of the cultural resources identified within the project area, and includes recommendations regarding whether the resources meet the formal definitions of a historical resource or a unique archaeological resource according to the provisions of CEQA, discussed in the Introduction above.

The project area is a combination of developed and undeveloped land situated on a flat, open plain with no geographic obstructions or impediments, allowing the entire project area to be completely surveyed. During the 2011 intensive-level field survey for cultural resources, ground visibility in the project area was very good, with approximately 85 percent visibility. The remaining 15 percent was obstructed by vegetation consisting of creosote, rabbit brush, and dry grasses. The area has been impacted by both airport development and residential occupation.
Table 4. Cultural Resources within the Project Area

<table>
<thead>
<tr>
<th>Primary Number</th>
<th>Trinomial Number</th>
<th>Temporary Number</th>
<th>Resource Description</th>
<th>NRHP/CRHR Eligibility</th>
<th>Date Recorded</th>
</tr>
</thead>
</table>

Updates to Previously Recorded Cultural Resources

<table>
<thead>
<tr>
<th>Primary Number</th>
<th>Trinomial Number</th>
<th>Temporary Number</th>
<th>Resource Description</th>
<th>NRHP/CRHR Eligibility</th>
<th>Date Recorded</th>
</tr>
</thead>
</table>

6Z = Found ineligible for NRHP, CRHR, or local designation through survey evaluation.

**Newly Recorded Archaeological Sites**

Four previously unrecorded historical archaeological sites (CA-SBR-15932H, CA-SBR-15933H, CA-SBR-15934H, and CA-SBR-15935H) were documented during the present survey. All four sites are historic-era trash scatters.
Exact location of resources not disclosed to protect resource integrity.
Newly Recorded Isolates

No isolated artifacts were found during the current survey.

Newly Recorded Built Environment Resources

No newly recorded built environment resources were identified during this study. It appears that earlier historical buildings were destroyed during airport construction in the late 1960s.

Updates to Previously Recorded Sites

One previously recorded historic archaeological site, a prehistoric rock feature, was updated as part of this study.

CA-SBR-6838H

This historic site, a U-shaped rock alignment feature, was recorded by Scientific Resource Surveys, Inc., in December 1990. SWCA relocated and updated the record for this site in November 2011. The site is located 5 m (16.4 feet) outside the northern portion of the project area.

CA-SBR-6838H consists of a U-shaped enclosure constructed of rectangular rocks in a single linear course (Figure 18). The rock alignment measures 4.57 × 4.57 m (15 × 15 feet) and is located 3 m (10 feet) south of a dirt access road. The stones used to construct the feature are rectangular and measure roughly 70 × 30 cm (28 × 12 inches). They appear to be embedded in the earth, although it is unknown if there are additional courses of stone beneath the surface.

![Figure 18. Site CA-SBR-6838H, overview of rock feature (view to southwest).](image)
The site was found to be in the same condition as described by Scientific Resource Surveys, Inc., in 1990. No prehistoric or historical artifacts were recorded, but modern trash was noted in and around the enclosure. Several pieces of modern shattered glass (green and colorless) are also present, and a used drug syringe, shotgun shells, and bailing wire were also noted near the feature. There are also small pieces of charcoal within the feature. A small depression measuring 45.7 × 45.7 × 15.2 cm (1.5 × 1.5 × 0.5 feet) deep is located in the center of the feature. Soil has built up around the feature, most likely as a result of run-off from a nearby rock outcrop. A small pile of cobbles (75 +) is located 4 meters (13 feet) south of the feature. Approximately 14 m (45 feet) north of the feature there is a pit measuring 1 × 1 × 1 m (3.2 × 3.2 × 3.2 feet). This pit contains modern refuse and appears to be a looter’s pit.

Site CA-SBR-6838H appears to offer little potential to yield additional data. It does not appear to be associated with significant historical events or persons (Criteria A/1 and B/2), to embody the distinctive characteristics of a period (Criterion C/3), or to be likely to yield information important in history (Criterion D/4). Site CA-SBR-6838H is therefore recommended ineligible for listing in the CRHR.

Assessment of Impacts

SWCA recommends that the four newly recorded historic sites (CA-SBR-15932H, CA-SBR-15933H, CA-SBR-15934H, and CA-SBR-15935H), and one previously recorded historic site (CA-SBR-6838H) are not eligible for listing in the CRHR. Because no eligible resources are known to be present, the proposed project does not have the potential to impact cultural resources under CEQA.

DISCUSSION AND RECOMMENDATIONS

Discussion

The goal of this project is to identify cultural resources within the Apple Valley Airport Master Plan project area and provide management recommendations for those resources. The results of the records search indicated that no portion of the project area has been surveyed by a qualified archaeologist within the last five years. No previously recorded cultural resources were found in the project area, although one previously recorded historic site (CA-SBR-6838H) is located 5 m (16 feet) outside of the project area. Historic maps from 1957 depict several structures near the project area, including residences and several wells. The NAHC Sacred Lands File search was negative for Native American cultural resources within 0.8 km (0.5 mile) of the project area.

SWCA archaeologists identified five cultural resources within the project area, including four newly recorded historic archaeological sites and one previously recorded historic archaeological site. The four newly recorded historic sites consist of historic-era trash scatters, likely representing the remains of residential activity associated with ca. 1920 homesteading and/or a post-WWII era of increased growth and development in this vicinity of Apple Valley (see Tang et al. 2006). It appears that all of the structures plotted on 1932 and 1957 USGS quadrangles potentially associated with the artifact assemblages have been demolished, likely in conjunction with the construction of the Apple Valley Airport. Generally speaking, these resources represent ephemeral evidence of small-scale, early to mid-twentieth century residential activities.

The single previously recorded historic site comprises a U-shaped rock alignment feature (CA-SBR-36862H). The site lacks evidence of any significant historical associations and does not appear to have any potential to yield further data.
The five archaeological sites (both newly and previously recorded), are recommended ineligible for inclusion in the CRHR. Therefore, the project does not have the potential to cause an impact to cultural resources under CEQA.

Recommendations

Because the resources encountered during the current survey consist of surface-level historic resources, and because overall visibility during the survey was very good, the likelihood of encountering previously unrecorded resources is low. Consequently, SWCA recommends no further cultural resources work. However, the proposed project does have the potential to impact previously unrecorded cultural resources. SWCA recommends that the following measures be taken to identify additional cultural resources within the project area, to prevent or reduce the significance of project-related impacts to cultural resources, and to satisfy the requirements of CEQA.

Inadvertent Discovery of Cultural Resources

In the event that cultural resources are exposed during ground-disturbing activities, construction activities (e.g., grading, grubbing, or vegetation clearing) should be halted immediately near the discovery. An archaeologist who meets the Secretary of the Interior’s Professional Qualifications Standards (National Park Service 1983) should then be retained to evaluate the finds’ significance under CEQA. If the discovery proves to be significant, additional work, such as data recovery excavation, may be warranted and should be discussed in consultation with the lead agency.

Inadvertent Discovery of Human Remains

The discovery of human remains is always a possibility during ground disturbances; State of California Health and Safety Code Section 7050.5 addresses these findings. This code section states that no further disturbance shall occur until the San Bernardino County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The Coroner must be notified of the find immediately. If the human remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a Most Likely Descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.
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Nevin, David

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San Manuel Band of Mission Indians

Stein, Pat

Strong, William

Sutton, Mark Q.

Sutton, Mark Q., Mark E. Basgall, Jill K. Gardner, and Mark W. Allen

Swedlund, A., and D. Anderson

Tang, Bai, Michael Hogan, Josh Smallwood, and Laura Hensley Shaker
U.S. Geological Survey (USGS)  

Walker, Henry P., and Don Buﬁkin  

Warren, Claude N.  

Warren, Claude N., and Robert H. Crabtree  

Warren, Elizabeth von Till, and Ralph J. Roske  

Whitley, David S., George Gumerman IV, J. M. Simon, and Elizabeth H. Rose  

Whitten, David  
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Appendix A.

Records Search Results Summary from SBAIC
14 November 2011

Charles Cisneros
SWCA
150 S. Arroyo Parkway, 2nd Floor
Pasadena, CA 91105

(626) 240-0587

HISTORICAL RESOURCES RECORD SEARCH: Apple Valley Master Plan near the Apple Valley Airport

In response to your request for information dated 11 November 2011, a records search has been conducted for the above project on USGS Apple Valley North 7.5' quad.

Historical Resources:

Prehistoric Archaeological Resources:
2 prehistoric archaeological sites
0 pending prehistoric archaeological sites
0 prehistoric districts
2 prehistoric isolates

Historic Archaeological Resources (sites older than 50 years of age):
7 historic archaeological sites
0 pending historic archaeological sites
0 historic structures
0 historic districts
1 historic isolates
3+ possible historic structure/archaeological site locations determined from historic maps
(maps checked): Thompson, 1917/20, 1929; Beasley, 1892; Blackburn, 1932; Perris, 1896;
Kremmerer, 1925; AAA-various; USGS Barstow, 1920/32; USGS Apple Valley, 1957.

Cultural Landscapes:
0 cultural Landscapes

Ethnic Resources:
0 ethnic resources

Heritage Properties (designated by State and Federal commissions):
0 National Register Listed Properties
0 National Register Eligible Properties
0 California Historic Landmarks
0 California Points of Historic Interest
PREVIOUS HISTORICAL RESOURCE INVESTIGATIONS:

Historical resource reports for the project area include:

- 8 Area-specific survey reports
- 2 General area overviews

In addition to the Center's historical resources files, the following publications, manuscripts or correspondence also were consulted:


1988  Five Views: An Ethnic Sites Survey for California.

- California Historical Landmarks.
- California Points of Historical Interest.

2011  Determinations of Eligibility--Records entered into the OHP computer file--received quarterly.

2011  Directory of Historic Properties--Records entered into the OHP computer file of historic resources--received quarterly.

SENSITIVITY OF PROJECT AREA FOR HISTORICAL RESOURCES:

Based upon the above information, available historical records and maps, and comparisons with similar environmental localities, the sensitivity assessment for this project area is:

- Prehistoric Archaeological Resources: High
- Historic Archaeological Resources: High
- Historic Resources (built environment): Low
- Cultural Landscapes: Unknown
- Ethnic Resources: Unknown

Comments: Potential for Prehistoric Archaeological Resources based on sites found in & near the project area. Potential for Historic & Historic Archaeological Resources based on sites found it the project area & structures/streets/wells/telephone line shown on historic maps. APE is within the boundaries of the historic Silver Mtn/Oro Grande Mining District.
RECOMMENDATIONS:

In order to minimally comply with CEQA, NEPA and/or Section 106 of the National Historic Preservation Act, a field survey should be conducted by a qualified professional for historical resources within portions of the project area not previously surveyed for such resources. A list of qualified professionals can be found at www.chrisinfo.org.

A CEQA Initial Study of "MAYBE" for potential adverse environmental impact to historical resources is warranted unless it can be documented by a qualified professional that NO resources older than 45 years in age exist on the property. Implementation of the above recommendation(s) will ensure that existing historical resources will be inventoried and evaluated, and that appropriate mitigation measures will be recommended to avoid adverse impacts.

If appropriate mitigation measures are not proposed for significant historical resources within the project area, then subsequent destruction of these resources may violated the California Environmental Quality Act, Nation Environmental Policy Act, National Historic Preservation Act, California codes or various local government ordinances.

If prehistoric or historic artifacts over 50 years in age area encountered during land modification, than activities in the immediate area of the finds should be halted and an on-site inspection should be performed immediately by a qualified archaeologist. This professional will be able to assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act and/or the Federal National Environmental Policy Act.

If human remains are encountered on the property, then the San Bernardino County Coroner's Office MUST be contacted within 24 hours of the find, and all work should be halted until a clearance is given by that office and any other involved agencies. Contact the County Coroner at 175 South Lena Road, San Bernardino, CA 92415-0037 or (909) 387-2543, or (760) 955-8535 in Victorville, or (760) 365-1668 in Yucca Valley or (760) 326-4825 in Needles.

The County of San Bernardino requests that historical resource data and artifacts collected within this project area be permanently curated at a repository within the County. Per a State Historical Resources Commission motion dated 7 Feb 1992, the repository selected should consider 36 CFR 79, Curation of Federally-owned and Administered Archaeological Collection; Final Rule, as published Federal Register, 12 Sept 1990, or a later amended for, for archival collection standards.

If you have any further questions, please, contact me at (909) 307-2669 x 255, Monday through Friday between 8 AM and 4 PM.

Robin E. Laska
Assistant Center Coordinator
Appendix B.

Native American Coordination Correspondence
Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION
915 Capitol Mall, RM 364
Sacramento, CA 95814
(916) 653-4082
(916) 657-5390 – Fax
nahc@pacbell.net

Information Below is Required for a Sacred Lands File Search

Project: Cultural Resources Studies for the Apple Valley Master Plan, San Bernardino County, California (Project# 21218)

County: San Bernardino County, California

USGS Quadrangle Name: Apple Valley North (1970, Photo revised 1993)

Township: 6 North; Range: 3 West; Section(s): 15, 21, 22, 23, 27, 28, 33, and 34.

Company/Firm/Agency: SWCA, Environmental Consultants

Contact Person: Michael Tuma, Senior Project Manager

Street Address: 150 South Arroyo Parkway, Second Floor

City: Pasadena, CA Zip: 91105

Phone: 626-240-0587

Fax: 626-240-0607

Email: mtuma@swca.com

Project Description:

Cultural Resources Study as part of the Apple Valley Master Plan, near the Apple Valley Airport.
November 17, 2011

Mr. Michael Tuma, Senior Project Manager

SWCA Environmental Consultants
150 South Arroyo Parkway, Second Floor
Pasadena, CA 91105

Sent by FAX to: 626-240-0607
No. of Pages: 5

Re: Sacred Lands File Search and Native American Contacts list for the “Proposed Apple Valley Master Plan Project;” located near the Apple Valley Airport in the Town of Apple Valley; San Bernardino County, California

Dear Mr. Tuma:

The Native American Heritage Commission (NAHC) conducted a Sacred Lands File search of the ‘area of potential effect,’ (APEs) based on the USGS coordinates provided and Native American cultural resources were not identified in the project area of potential effect (e.g. APE): you specified. Also, please note; the NAHC Sacred Lands Inventory is not exhaustive and does not preclude the discovery of cultural resources during any project groundbreaking activity.

California Public Resources Code §§5097.94 (a) and 5097.96 authorize the NAHC to establish a Sacred Land Inventory to record Native American sacred sites and burial sites. These records are exempt from the provisions of the California Public Records Act pursuant to, California Government Code §6254 (r). The purpose of this code is to protect such sites from vandalism, theft and destruction.

In the 1985 Appellate Court decision (170 Cal App 3rd 604), the court held that the NAHC has jurisdiction and special expertise, as a state agency, over affected Native American resources, impacted by proposed projects including archaeological, places of religious significance to Native Americans and burial sites.

The California Environmental Quality Act (CEQA — CA Public Resources Code §§ 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a ‘significant effect’ requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as ‘a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ... objects of historic or aesthetic significance.’ In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the ‘area of potential effect’ (APE), and if so, to mitigate that effect. CA Government Code §85040.12(e) defines “environmental justice” provisions and is applicable to the environmental review processes.
Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Local Native Americans may have knowledge of the religious and cultural significance of the historic properties of the proposed project for the area (e.g. APE). Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). We urge consultation with those tribes and interested Native Americans on the list the NAHC has attached in order to see if your proposed project might impact Native American cultural resources. Lead agencies should consider avoidance as defined in §15370 of the CEQA Guidelines when significant cultural resources as defined by the CEQA Guidelines §15064.5 (b)(c)(f) may be affected by a proposed project. If so, Section 15382 of the CEQA Guidelines defines a significant impact on the environment as “substantial,” and Section 2183.2 which requires documentation, data recovery of cultural resources.

The 1992 Secretary of the Interior’s Standards for the Treatment of Historic Properties were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The aforementioned Secretary of the Interior’s Standards include recommendations for all ‘lead agencies’ to consider the historic context of proposed projects and to ‘research’ the cultural landscape that might include the ‘area of potential effect.’

Partnersing with local tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA (42 U.S.C 4321-43351) and Section 106 (f), Section 110 (f)(k) of federal NHPA (16 U.S.C. 470 et seq), 36 CFR Part 800.3 (f) (2) & .5, the President’s Council on Environmental Quality (CSQ, 42 U.S.C 4371 et seq. and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 Secretary of the Interior’s Standards for the Treatment of Historic Properties were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The NAHC remains concerned about the limitations and methods employed for NHPA Section 106 Consultation.

Also, California Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a ‘dedicated cemetery’, another important reason to have Native American Monitors on board with the project.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. An excellent way to reinforce the relationship between a project and local tribes is to employ Native American Monitors in all phases of proposed projects including the planning phases.

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

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton

Attachment: Native American Contact List
California Native American Contacts
San Bernardino County November 17, 2011

Ramona Band of Cahuilla Mission Indians
Joseph Hamilton, Chairman
P.O. Box 391670 Anza, CA 92539
admin@ramonatribe.com
(951) 763-4105
(951) 763-4325 Fax

San Fernando Band of Mission Indians
John Valenzuela, Chairperson
P.O. Box 221836 Newhall, CA 91322
tsen2u@hotmail.com Serrano
(661) 753-9833 Office Vanyume
(760) 885-0955 Cell Kitanemuk
(760) 949-1604 Fax

San Manuel Band of Mission Indians
James Ramos, Chairperson
26569 Community Center Drive Highland, CA 92346
(909) 864-8933
(909) 864-3724 - FAX
(909) 864-3370 Fax

AhaMaKay Cultural Society, Fort Mojave Indian
Linda Otero, Director
P.O. Box 5990 Mohave Valley AZ 86440
(928) 768-4475
LindaOtero@fortmojave.com
(928) 768-7996 Fax

Chemehuevi Reservation
Charles Wood, Chairperson
P.O. Box 1976 Chemehuevi Valley, CA 92363
chair1cit@yahoo.com
(760) 858-4301
(760) 858-5400 Fax

Morongo Band of Mission Indians
Michael Contreras, Cultural Heritage Prog.
12700 Pumara Road Cahuilla
Banning, CA 92220 Serrano
(951) 201-1866 - cell
mcontreras@morongo-ns.gov
(951) 922-0105 Fax

Fort Mojave Indian Tribe
Tim Williams, Chairperson
500 Merriman Ave Needles, CA 92363
(760) 629-4591
(760) 629-5767 Fax

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

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

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5067.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed Apple Valley Master Plan Project; located near the Apple Valley Airport; Town of Apple Valley; San Bernardino County, California for which a Sacred Lands Pile search and Native American Contacts list were requested.

C-62
Serrano Nation of Indians
Goldie Walker
P.O. Box 343 Serrano
Patton, CA 92369

(909) 862-9883

SOBOBA BAND OF LUISENDO INDIANS
Joseph Ontiveros, Cultural Resource Department
P.O. BOX 487 Luiseno
San Jacinto, CA 92581
jon_tiveros@soboba-nsn.gov
(951) 663-5279
(951) 654-5544, ext 4137

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

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5067.94 of the Public Resources Code and Section 5097.86 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed Apple Valley Master Plan Project; located near the Apple Valley Airport; Town of Apple Valley; San Bernardino County, California for which a Sacred Lands File search and Native American Contacts list were requested.
Confidential Appendix C.

California Department of Parks and Recreation Series 523 Forms
Exact location of resources not disclosed to protect resource integrity.