

**Phase 1 and Phase 2 Cultural Resources Assessment  
World Logistics Center  
City of Moreno Valley, Riverside County, California**

Sunnymead and El Casco, California, USGS 7.5-minute Topographic Quadrangle Maps  
Portions of Township 3 South/Range 3 West Sections 1, 12, 13 and,  
Township 3 South/Range 2 West Sections 6, 7, 8, 9, 16, 17, 18, 19, 20, 21  
3,692-Acre Study Area

Including a Paleontological Records Review by Dr. Kenneth J. Lord

**NON-CONFIDENTIAL - PUBLIC DISTRIBUTION**

Prepared for:

**Highland Fairview Operating Company**  
14225 Corporate Way  
Moreno Valley, CA 92553

Contact: Mr. Wayne Peterson, Vice President, Community Planning

Prepared by:

**Michael Brandman Associates**  
220 Commerce, Suite 200  
Irvine, CA 62602  
714.508.4100  
Author: Michael H. Dice, M.A.



Fieldwork Conducted By: Michael Dice, M.A., Audrey Podratz, Arabesque Said, Erik Landis,  
Jennifer Sanka, M.A., Marnie Kay, James Keasling, Peter Messick, Sarah Williams M.A.  
Alynn Loupe, Leleua Loupe, Steven Diaz, Jessica Porter, Michelle Courtney,  
Shira Maezumi, Greg Chatman and John David Coble

Fieldwork Conducted: August-September 2005, June-July 2007, July 2011, January 2012, April 2012  
Report Draft No. 3, Date: April 12, 2012

Keywords: Rancho San Jacinto Nuevo y Potrero, Town of Moreno, San Jacinto Valley, Mount Russell, Cultural resource sites CA-RIV-610, CA-RIV-860, CA-RIV-2993, CA-RIV-3238, CA-RIV-3343, CA-RIV-3344, CA-RIV-3345, CA-RIV-3346, CA-RIV-3347, CA-RIV-4201, CA-RIV-4210, CA-RIV-5862, CA-RIV-6200, CA-RIV-8006, and CA-RIV-8007

## Table of Contents

<b>Management Summary</b> .....	<b>1</b>
<b>Section 1: Introduction</b> .....	<b>4</b>
1.1 - Project Location .....	5
1.2 - Project Description .....	5
1.3 - Environmental Setting .....	5
1.4 - Assessment Team .....	13
<b>Section 2: Cultural Setting</b> .....	<b>14</b>
2.1 - Prehistoric Background .....	14
2.2 - Native American Background.....	16
2.3 - Historic Background .....	19
<b>Section 3: Environmental Compliance Parameters</b> .....	<b>23</b>
3.1 - CEQA and Cultural Resources .....	23
3.2 - City of Moreno Valley General Plan .....	25
3.3 - Thresholds of Significance .....	26
3.4 - The Federal Section 106 Process.....	27
3.5 - Paleontology .....	28
<b>Section 4: Research Design and Background Research Results</b> .....	<b>29</b>
4.1 - Phase 1 Cultural Resource Survey Research Design .....	29
4.2 - Phase 2 Testing Research Design.....	30
4.3 - Test Excavation Plan .....	31
4.4 - Paleontological Resource Research Design.....	33
4.5 - Cultural Background Check Results .....	33
4.6 - Paleontological Records Search Results .....	51
<b>Section 5: Phase 1 Survey and Phase 2 Testing Results</b> .....	<b>52</b>
5.1 - Phase 1 Survey.....	52
5.2 - Phase 2 Testing Results .....	53
<b>Section 6: Summary and Recommendations</b> .....	<b>67</b>
6.1 - Cultural Resource Summary .....	67
6.2 - Cultural Resource Mitigation Recommendations .....	67
6.3 - Paleontological Mitigation Recommendations .....	69
<b>Section 7: Certification</b> .....	<b>72</b>
<b>Section 8: References</b> .....	<b>73</b>
<b>Appendix A: List of Parcels in the World Logistics Center</b>	
<b>Appendix B: Cultural Resource Correspondence</b>	
<b>Appendix C: Personnel Qualifications</b>	
<b>Appendix D: Project Area Photographs</b>	
<b>Appendix E: Confidential Department of Parks and Recreation (DPR) 523 Forms</b> <b>Not For Public Review</b>	
<b>Appendix F: Confidential Site Locations</b> <b>Not For Public Review</b>	
<b>Appendix G: Historic Aerials</b>	

## List of Tables

Table 1: Sunnymead Quad Map: Previously Recorded Cultural Resources .....	34
Table 2: El Casco Quad Map: Previously Recorded Cultural Resources .....	38
Table 3: Recommended Cultural Resource Mitigation Measures .....	68
Table 4: Recommended Paleontological Resource Mitigation Measures .....	71
Table A-1: List of Parcels in the World Logistics Center .....	76

## List of Exhibits

Exhibit 1: Regional Location Map.....	6
Exhibit 2: Project Location Map -Topographic Base .....	7
Exhibit 3a: Project Location Map, Aerial Base - Northwest Quadrant.....	8
Exhibit 3b: Project Location Map, Aerial Base - Northeast Quadrant .....	9
Exhibit 3c: Project Location Map, Aerial Base Map - Southeast Quadrant .....	10
Exhibit 3d: Project Location Map, Aerial Base - Southwest Quadrant .....	11
Exhibit 4a: 1932 Aerial - Northwest Portion of Specific Plan.....	41
Exhibit 4b: 1932 Aerial - Northeast Portion of Specific Plan .....	42
Exhibit 4c: 1932 Aerial - Southeast Portion of Specific Plan.....	43
Exhibit 5a: 1936 Aerial - Southwest Portion of Specific Plan .....	44
Exhibit 5b: 1936 Aerial - Eastern Portion of Specific Plan .....	45
Exhibit 6a: 1946-7 Aerial - Southwest Portion of Specific Plan.....	47
Exhibit 6b: 1946-7 - Southeast Portion of Specific Plan.....	48
Exhibit 7a: 1958 Aerial - North Portion of Specific Plan .....	49
Exhibit 7b: 1960 Aerial - South Portion of Specific Plan .....	50

## MANAGEMENT SUMMARY

This report documents a California Environmental Quality Act (CEQA)-level cultural resource survey, significance assessment and paleontological resource review for a Specific Plan (SP) encompassing approximately 3,692 acres in the City of Moreno Valley, California (City). Michael Brandman Associates (MBA) has prepared this investigation for the Highland Fairview Operating Company (the Proponent). The purpose of this analysis is to determine if any significant historical resources are located in the SP. This assessment includes a Phase 1 archaeological survey, a Phase 2 archaeological test of certain cultural resources within the SP, and an analysis of whether buried paleontological resources might be affected by future construction. Fieldwork was undertaken between September 2005 and April 2012.

Because this analysis is in support of a program-level Environmental Impact Report (EIR) for the SP, the Proponent asked MBA to perform an archaeological survey of as many parcels in the project site as was possible. A small amount of acreage in the SP could not be surveyed because it was either occupied by homeowners who had not yet granted the right to trespass to the Proponent, was covered in dense weedy vegetation that was impossible to cross, or was too steep to safely walk. Some of the parcels in the SP are controlled by San Diego Gas and Electric (SDGE) or the California Department of Fish and Game (CDFG). These must be placed the Open Space portion of the SP and were not accessible during the Phase 1 survey.

Background data was gathered for this project on several occasions. A cultural resource literature search of the original SP was conducted by MBA staff archaeologist Marnie Kay in May 2005. A second cultural resource literature search was conducted by MBA project archaeologist Jennifer Sanka in June 2007. Both searches took place at the Eastern Information Center (EIC), which is located at the University of California, Riverside. Search radii of 1.0 mile was used. At the EIC in June of 2011, the revised SP project limits were re-examined for changes in the occurrence of sites that may have been recorded by EIC staff since the 2007 search was undertaken.

Phase 1 block-transect surveys of all accessible parcels were performed in August and September of 2005. Additional properties in the SP boundary were surveyed in the summer and fall of 2007 and in July 2011. Finally, three parcels near the northeast corner of the SP were surveyed in January of 2012, and three more parcels in the far southwest portion of the SP were surveyed in early April 2012. These surveys revealed that 4 historic-era cultural resource sites, 11 prehistoric-era cultural resource sites, and several isolated artifacts are located within the boundaries of the SP. Most of the prehistoric resources are located on the boulder-strewn foothills below the peak of Mt. Russell, and all of the historic resources are located at older farm complexes that were abandoned years ago. Resources were recorded onto modern DPR523 forms as the fieldwork progressed.

In early 2006, the Proponent authorized a subsurface significance-testing program (Phase 2 testing) on nine of the eleven prehistoric cultural resources located at the foot of Mt. Russell. A monitor representing the Soboba Band of Luiseño Indians was in attendance when these resources were tested. The Proponent wanted to know if these resources should be considered significant resources because they are located near the southern boundary of the planned-for development and impact to them had (originally) been considered as part of project development. The prehistoric sites that were tested for significance included CA-RIV-610, CA-RIV-860, CA-RIV-3238, CA-RIV-3343, CA-RIV-3344, CA-RIV-3345, CA-RIV-3346, CA-RIV-8006 and CA-RIV-8007. The test used a shovel pit test method and screening of soils for artifacts through 1/8" hardware cloth.

The 2006 testing work revealed that only one of these sites, CA-RIV-3346, exhibited evidence of intact subsurface prehistoric data. For this reason, we determined that CA-RIV-3346 should be considered a significant historical resource for the purposes of CEQA. The other site exhibited so such data. This lack of subsurface cultural information and prehistoric artifacts at the other sites caused us to determine that these sites should not be considered significant because the cultural resource data is believed exhausted. Significance statements for each of the Phase 2 tested prehistoric sites are included in this report. A tenth site, CA-RIV-3347, was relocated during surveys in 2011 and new DPR523 forms for that site were issued. The 11th site, CA-RIV-2993 was observed in April 2012 and is unchanged since it was originally recorded. Should it be determined in the future that these latter two sites will be directly impacted by construction in the SP, a Phase 2 test of these sites will be required.

In early 2012, the Proponent authorized another Phase 2 testing work effort on two historic-era cultural resources located in Section 7 of T3S/R7W. In addition, MBA staff re-examined a third historic cultural resource in the far northeast portion of the Specific Plan for characteristics of potential significance. The Proponent wanted to know if these historic-era resources should be considered significant resources because future impacts to them during construction were considered extremely likely. An analysis of the following historic-era sites are provided for in this report: CA-RIV-4201, CA-RIV-4210 and CA-RIV-5862.

Testing at the CA-RIV-4201 and CA-RIV-4210 required the use of heavy machinery and an archaeological monitor, while the latter site was reviewed for integrity only. We found that these two sites appear to have been completely bulldozed and the debris likely hauled off site. The structure at -4210 was likely burned, then demolished. For this reason, both sites are considered not significant and impacts to the sites need not be further mitigated for during construction. Site CA-RIV-5862 was re-examined on survey and found to have little integrity, suggesting that it too should not be considered a significant cultural resource. All DPR523 form sets have been included in the Confidential Appendix E of this report, and all new forms were previously submitted to the Eastern Information Center.

MBA contacted the Native American Heritage Commission (NAHC) in March 2011 requesting a Sacred Lands File search for traditional cultural properties. The response from the NAHC was received on March 25, 2011. The NAHC response indicated that no sacred lands or traditional cultural properties are known for the project site. On March 29, 2011, MBA sent information-request letters to each of the 12 tribal entities named by the NAHC. Two responses to our letters were forwarded to MBA staff: one from the Pala Band and another from the Soboba Band. The Pala Band indicated that the SP lay far outside their sphere of interest. In sum, no tribe has notified MBA staff of the existence of traditional tribal properties or specific lands that might be considered sacred within the confines of the SP.

MBA contacted Eric Scott of the Division of Geological Sciences of the San Bernardino County Museum on June 2005 requesting a paleontological records check of the original SP. Mr. Scott's paleontological review showed that the project site rests entirely on exposures of Holocene (Recent) alluvium and granitic bedrock. Both the alluvium and the bedrock have low potential for fossil deposits to be uncovered during grading. However, the Holocene alluvium rests upon a veneer of Older Pleistocene alluvium and San Timoteo Formation deposits, both of which are highly sensitive for fossil resources. MBA's monitoring work at the Highland Fairview Corporate Park Project, which was originally included in the 2005 version of the SP, included monitoring for paleontological resources. We showed that the shallower soils (0 to 10 feet) were completely devoid of fossil resources and that the types of soils from 10 to -20 feet below grade did not contain strata that would allow paleontologic resources to be preserved. Therefore, we recommend that full time paleontological monitoring should take place in those portions of the project where earthmoving occurs 20 feet or more below grade.

As a result of these work efforts, and the fact that most of the prehistoric sites' cultural components are located on solid bedrock, it is likely that all prehistoric cultural resources in the SP will be avoided during buildout of the SP. The recorded historic-era cultural resources in the SP need not be further mitigated for because they have been Phase 2 tested and shown to be not significant. A mitigation-monitoring program for both cultural and paleontological resources has been provided herein and should be selectively applied during future project-level EIRs that must be generated for the project.

## SECTION 1: INTRODUCTION

At the request of Highland Fairview Operating Company (HF), MBA has conducted cultural resources surveys, prehistoric cultural resource evaluations, and a paleontological records search on a proposed Specific Plan (SP) located in the far eastern portion of the City of Moreno Valley, Riverside County, California (City). The SP covers an area totaling approximately 3,692 acres in 171 parcels, and is located generally southwest of the intersection of State Route 60 and Gilman Springs Road, and east of Redlands Boulevard. The proposed use of the project area is for future logistics development. The purpose of this report is to identify the presence or absence of potentially significant cultural and paleontological resources within the SP. Given that the SP shall be built out as a phased project, this report includes recommendations for cultural and paleontological mitigation for use in future project-level CEQA and NEPA compliance documents.

Federal, State, and local agencies have developed laws and regulations designed to protect significant cultural resources that may be affected by projects regulated, funded, or undertaken by a Lead Agency. These laws govern the preservation of historic and archaeological resources of national, State, regional, and local significance. The laws fulfilled in this report include the CEQA, and cultural resource requirements in the City's General Plan. This report closely follows the California Office of Historic Preservation (OHP) procedures for cultural resource surveys and the OHP's Archaeological Resource Management Report (ARMR) reporting format for archaeological reports. This report is organized into sections and appendices, which are summarized as follows:

- Section 1 introduces the project, the location, and the cultural resources team.
- Section 2 summarizes cultural setting.
- Section 3 describes environmental compliance parameters.
- Section 4 presents the research design and investigative methods for the cultural resource survey and paleontological records search results.
- Section 5 includes the Phase 1 survey and Phase 2 testing results.
- Section 6 provides management recommendations.
- Section 7 contains the project certification.
- Section 8 presents a reference list.
- Appendix A provides list of parcels in the World Logistics Center.
- Appendix B documents the cultural resource correspondence for this report.
- Appendix C provides personnel qualifications.
- Appendix D provides recent photographs of the project area.
- Appendix E contains the confidential Department of Parks and Recreation (DPR) 523 forms.
- Appendix F contains the confidential site locations relative to a modern aerial photograph.
- Appendix G illustrates historic aerial views of the project.

---

## 1.1 - Project Location

---

The project is located south of State Route (SR) 60, east of Redlands Boulevard, and west of Gilman Springs Road (Exhibit 1). The study area is specifically located in all or portions of Township 3 South/Range 3 West Section 1, 12, 13, and Township 3 South/Range 2 West Section 6, 7, 8, 9, 16, 17, 18, 19, 20, 21 as depicted on the Sunnymead, California and El Casco, California United States Geological Survey (USGS) 7.5-minute topographic maps (Exhibit 2). Exhibit 3a through 3d shows the condition of the property in 2011 per a modern aerial photography. Appendix A provides a list of parcels in the World Logistics Center. Appendix A also documents when these lands were archaeologically surveyed between 2005 and 2012.

Certain areas must be delineated as Open Space because the Proponent cannot obtain ownership: a portion of Mt. Russell delineated as Open Space by the City, all lands under the control of California Department of Fish and Game (CDFG), lands under the control of San Diego Gas and Electric (SDGE), and lands controlled by the Los Angeles Municipal Water District (MWD). The CDFG and SDGE parcels were not archaeologically surveyed during this study.

---

## 1.2 - Project Description

---

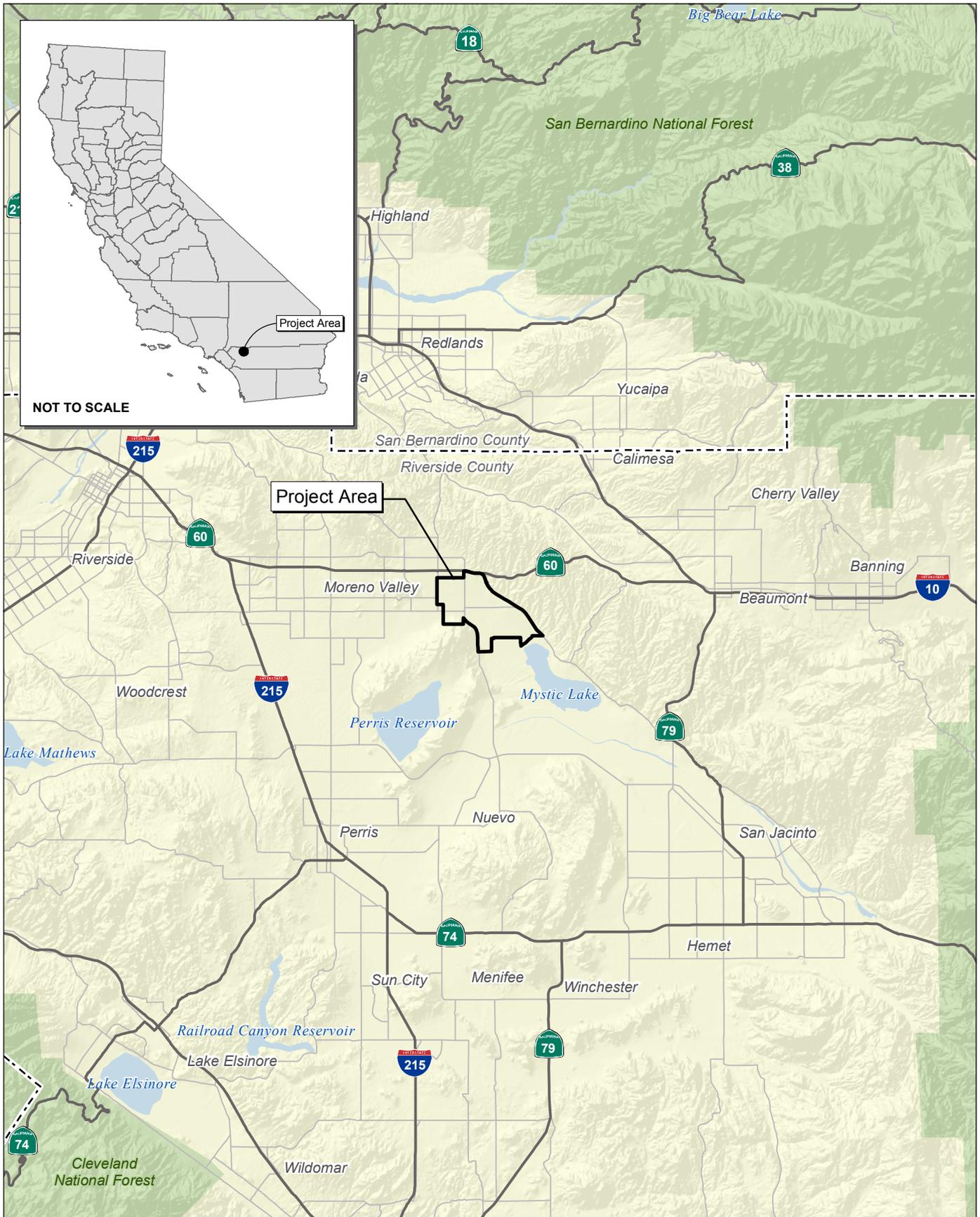
The development of the SP is associated with construction of commercial logistic buildings, commercial infrastructure, and City streets. The project will also require modernization of interchanges south of the SR-60 freeway, changes to portions of Gilman Springs Road as well as construction of water delivery systems, water recycling systems, and other utilities. It is assumed that at buildout perhaps some 15 to 20 years hence, all ground in the SP shall be disturbed except for those portions of the project delineated as Open Space by the City.

---

## 1.3 - Environmental Setting

---

The project is located in the northerly reaches of the San Jacinto Valley several miles east of downtown Moreno Valley. It lies between the plutonic batholith of Mt. Russell, the San Jacinto fault zone, and Pliocene-era non-marine sedimentary rocks of The Badlands. The site elevation is between 1,480 and 1,760 feet, with a gradual slope to the south and southeast. Available evidence suggests that any citrus orchards located within the project, which would represent the first commercial agricultural development, were removed before 1930. After about 1950, these properties were used for grazing of cattle and horses. Limited agricultural development has taken place there, but nearly all of the properties have been plowed at one time or another.



Source: Census 2000 Data, The CaSIL, MBA GIS 2012.

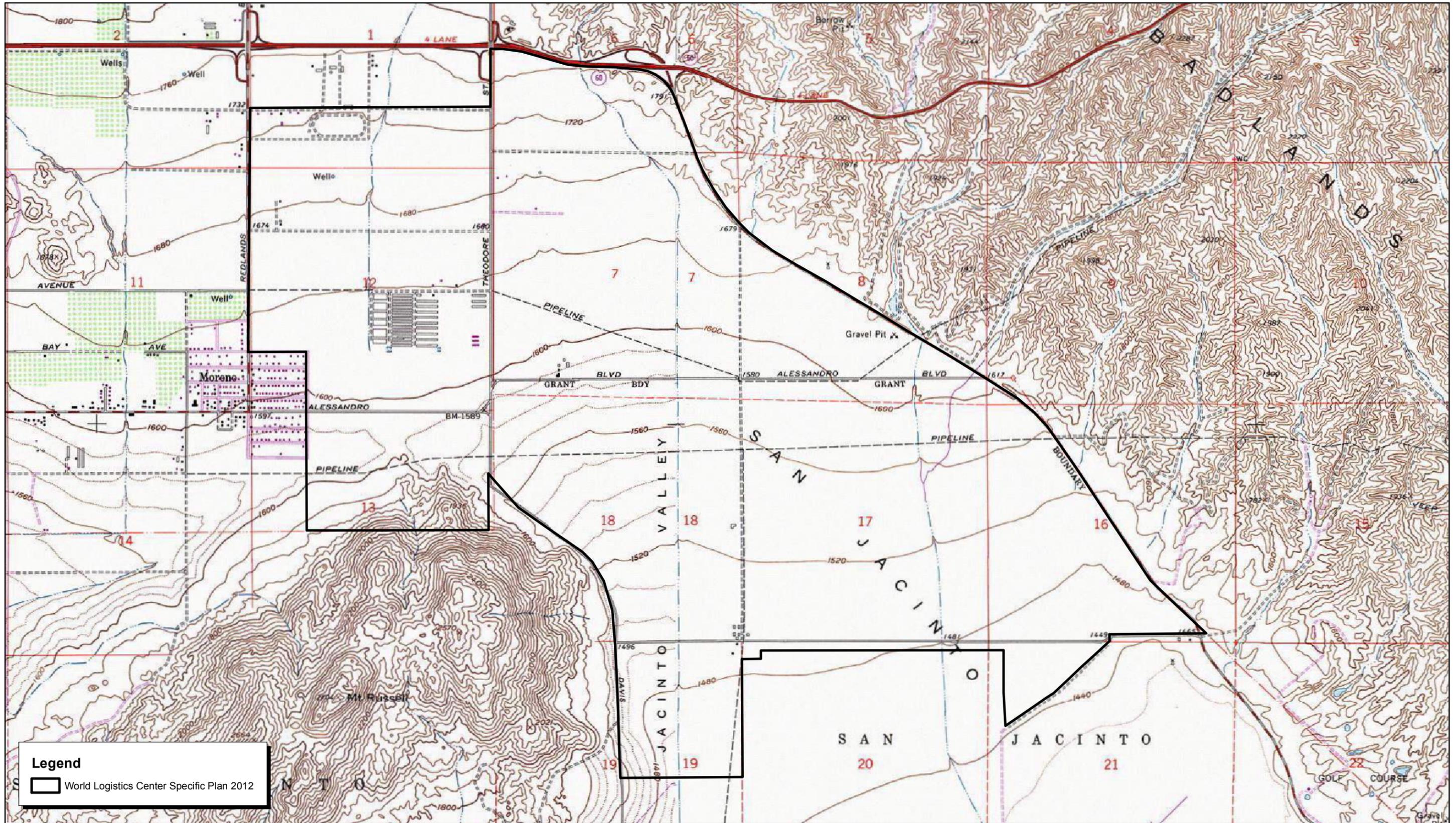


Michael Brandman Associates

26100025 • 04/2012 | 1\_regional.mxd



## Exhibit 1 Regional Location Map



Source: TOPO! USGS Sunnymead, CA (1978) and El Casco (1976) 7.5' DRG.

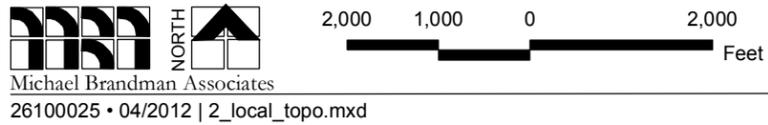


Exhibit 2  
Project Location Map  
Topographic Base



**Legend**  
 [Black Outline] World Logistics Center Specific Plan 2012

Source: ESRI Aerial Imagery.



Michael Brandman Associates  
 26100025 • 04/2012 | 3a\_aerial\_nw\_quad.mxd

Exhibit 3a  
 Project Location Map  
 Aerial Base - Northwest Quadrant



Source: ESRI Aerial Imagery.



26100025 • 04/2012 | 3b\_aerial\_ne\_quad.mxd



Exhibit 3b  
Project Location Map  
Aerial Base - Northeast Quadrant



**Legend**  
[Outline] World Logistics Center Specific Plan 2012

Source: ESRI Aerial Imagery.



Michael Brandman Associates

26100025 • 04/2012 | 3c\_aerial\_se\_quad.mxd

**Exhibit 3c**  
**Project Location Map**  
**Aerial Base - Southeast Quadrant**



**Legend**

World Logistics Center Specific Plan 2012

Source: ESRI Aerial Imagery.



Michael Brandman Associates

2610025 • 04/2012 | 3d\_aerial\_sw\_quad.mxd



Exhibit 3d

Project Location Map

Aerial Base - Southwest Quadrant

The parcels in the SP are dry most of the year even though irrigation water is available to them. Parcels located in the southeast portion are managed by a State agency and are lands that shall be designated as Open Space. These are located north of a basin known as “Mystic Lake” which represents a portion of the San Jacinto Valley that exhibits groundwater for most months of the year. Other Open Space parcels include a wedge shaped piece along the north edge of Gilman Springs Road and about 64 acres located at the toe of Mt. Russell.

### **1.3.1 - Topography, Geology, and Soils**

The SP lies on young Holocene-era floodplain deposits exhibiting surface exposures of Holocene younger alluvium. Soils consist of San Emigdio sandy loams and fine-sandy loams (USDA 1971): only in those few deeply disturbed places could concentrations of cobbles be seen. The existence of buried river cobbles at some of the known archaeological sites and observed during the Highland Fairview Corporate Park monitoring (MBA 2011) suggests that riverine and wash deposits lie buried beneath the plow zone and that the original shallow drainages and washes that once traversed the property had been plowed over.

### **1.3.2 - Vegetation**

Most of the SP exhibits weedy vegetation or disked farmland, with small areas of introduced vegetation used to create windbreaks. Remnant patches of olives, palm and eucalyptus tree alignments can be observed, but it is clear that most of the original native vegetation had been cleared long ago. This not the case on the Mt. Russell parcels located at the southwest corner of the SP. Portions exhibit Riverside Sage Scrub vegetation and were never plowed. In 2007 and 2011, land was surveyed after disking for weed control had taken place. Survey after disking revealed a highly consistent sandy loam with few gravels or cobble inclusions. The topsoil appears to be coarser toward the eastern side of the SP, with numerous cobbles in the far northeast corner.

### **1.3.3 - Wildlife**

No wildlife was observed during the survey, save for occasional coyote, lizard, birds, and small rodents.

### **1.3.4 - Land Use**

Eastern Moreno Valley was first developed for agriculture in the late 1890s part of the town of Moreno, prior to this the SP had been part of the San Jacinto Nuevo y Potrero Rancho. This land, a subdivision of the massive San Jacinto Rancho (originally 8 square leagues in size or more than 50 square miles) lay vacant during the Spanish era and was not part of any rancho in the Mexican historical era until 1842. Once the Rancho San Jacinto Nuevo y Potrero was platted, the old wagon road between Temecula to San Jacinto was expanded such that and the road was extended into the Box Springs area of the City of Riverside and points beyond. This road probably ran along the track now covered by Gilman Springs Road, headed to Box Springs across what is now Moreno Valley,

thence into Riverside. Because of the lack of reliable water, it is unlikely that the SP was used during the early historic period for anything except springtime grazing.

During the historic period, most of the parcels in the SP have been used, albeit sporadically, for dry-land crops and the occasional irrigated farming plots. Horses were raised on one farm in the northwest corner of the SP and one of the older farm structures in the Moreno area can be found near the northeast corner of Draceae and Redlands Boulevard. Although plans were made to bring water from the reservoir at Big Bear to Moreno as part of a regional California land boom scheme (circa 1891), the plan was never completed because the issue of water rights were adjudicated in favor of the City of Redlands. Citrus farms were built east of Redlands Boulevard and relied of pumped well water for irrigation. All of these failed with the onset of the Depression.

---

## 1.4 - Assessment Team

---

MBA senior archaeologist Michael Dice, M.A. and MBA staff archaeologists Peter Messick, Marnie Kay, Alynne Loupe, Leleua Loupe, Sarah Williams, Greg Chatman, and Erin Shepard began the first surveys of the SP in August-September 2005. Members of this team Phase 2-tested eight prehistoric resource sites in May-June 2006. MBA project archaeologist Jennifer Sanka, M.A., Ms. Kay and Jay Keasling surveyed additional parts of the SP in June and July 2007. Mr. Dice, Mr. Keasling, Ms. Loupe, and MBA staff archaeologist Arabesque Said surveyed additional areas in the SP in August 2007. Mr. Dice, Ms. Said, and MBA staff archaeologist Erik Landis surveyed parcels east of Theodore Street in the summer of 2011. Mr. Dice and Ms. Williams monitoring testing at two historic-era sites and surveyed the last of the farmland in January 2012. Ms. Podratz surveyed several parcels in the southwest corner of the property in April 2012. Finally, Dr. Kenneth J. Lord, Ph.D. undertook a paleontological assessment of the Specific Plan and his data has been added herein. The professional qualifications of Mr. Dice and Dr. Lord are located in Appendix C.

## SECTION 2: CULTURAL SETTING

The following is a brief overview of the prehistoric and historic background that provides a context in which to understand the background and relevance of sites found in the general vicinity of the SP. This section is not intended to be a comprehensive review of the current resources available but serves as a generalized overview. Descriptions that are more detailed can be found in ethnographic studies, mission records, and major published sources including Kroeber (1925), Wallace (1955), Warren (1968), Heizer (1978), Moratto (1984), and Chartkoff and Chartkoff (1984).

### 2.1 - Prehistoric Background

This section provides a brief overview of the prehistory and history of the SP. A more detailed description can be found in ethnographic studies, mission records and major published sources including Kroeber (1925), Wallace (1955), Warren (1968), Heizer (1978), Moratto (1984), and Chartkoff and Chartkoff (1984). Fagan (2003), Moratto and Chartkoff and Chartkoff provide recent overviews of California archaeology in general and review the history of the desert regions in southern California. The most accepted regional chronology for the coastal and central interior Southern California is derived from Wallace's four-part "Horizon" format, which was later updated and revised by Warren. Presently, regional archaeologists generally follow Wallace's Southern California format but the loosely established times for each period subunit are often challenged. The documented prehistoric stages are as follows:

- Desert Culture Period (12000 to 10000 B.C.)
- Western Hunting Culture or Lake Mohave Period (~9000 to 5000 B.C.)
- Pinto Period (5000 to 2500 B.C.)
- Protohistoric (2500 B.C. to A.D. 1769)

#### 2.1.1 - Desert Culture Period (12000 to 10000 B.C.)

Comparatively, little is known of Paleo-Indian peoples in the California archaeological record, although highly documented archaeological village sites in the Southwest have revealed associated bones of now extinct large mammals, as well as Clovis and Folsom tool traditions (Fagan 2003). However, this period is noted for an increase in drier weather, consequently most of the known California Late Paleo-Indian/early archaic sites are located near extinct desert valley lakes, rock shelters, and on the Channel Islands off the California coast (Chartkoff and Chartkoff 1984; Forbes 1989). These consist of occupation sites, butchering stations and burials. This period ends with a marked extinction of large game native to North America and a distinct change in prehistoric tool kits used to prepare plant foods. Small projectile points, choppers, flat scrapers, drills, and digging sticks are also common (Forbes 1989).

### **2.1.2 - Western Hunting Culture or Lake Mohave Period (~9000 to 5000 B.C.)**

It is thought that as hunting of large mammals became less available as a food resource due to drier weather conditions, the West and Southwest showed an increased reliance in using small game, such as squirrels and rabbits, and wild plants to sustain the small tribal bands (Jennings 1989; Oswalt 1988). This period is also marked by the absence of food-grinding stone implements. However, the period ends when stone grinding implements become increasingly more prevalent in the archaeological record (Forbes 1989; Jennings 1989; Oswalt 1988).

### **2.1.3 - Pinto Period (5000 to 2500 B.C.)**

The Pinto Period highlights a combination of both Desert Culture and Western Hunting Cultures, where an increase in grinding tools appears in the archaeological record. Such tools suggest an increased level of reliance on wild plants and small animals (Forbes 1989; Jennings 1989; Oswalt 1988). The Pinto spear-point tool tradition is the hallmark of this period. This tradition is characterized by small coarsely chipped points, which tend to be triangular and sometimes have parallel sides. These points may have tipped the atlatl, a type of spear. A slight variation in tool type appears towards the end of this period, which is represented by Gypsum points and Elko points. The Gypsum point is typified by its contracting stem, whereas Elko points are corner notched (Jennings 1989).

### **2.1.4 - Protohistoric (~2500 B.C. to A.D. 1769)**

In the southwestern Great Basin, the Protohistoric period is characterized as having cooler and wetter conditions than previous periods and an environment similar to that of today. Protohistoric sites appear in California in areas that were unoccupied in previous periods. The number of sites in some regions, especially near ephemeral lakes, seem to have risen dramatically. In the Owens Valley, permanent village sites were used, along with the addition of upland dry-environment sites. These changes reflect a phenomenon found throughout the western United States where an increase in population and changes in tool kits and living arrangements resulted in more specialized uses of materials and landscapes. Diagnostic artifacts associated with this period consist of Elko and Gypsum projectile points.

### **Late Prehistoric Period, Desert Regions - Saratoga Springs Period (1750 to 800 BC)**

The Late Prehistoric period is environmentally similar to earlier periods. In the southwest Great Basin, this period is characterized by the introduction of the bow and arrow, exploitation of the pine nut, and an increase in logistical complexity relative to landscape use. With these changes came a diversification of resource use and a more sedentary settlement pattern in the Owens Valley. The nature and number of sites attributed to this time period changed such that the “winter villages” became larger, numbers of such villages were reduced, and base camps in the upland areas became larger, more diversified, and more numerous. The abandonment of village sites at the end of the Late Prehistoric Period is attributed to a change in climate, and is an event mirrored in other parts of the

American Southwest, California, and in Mexico. Trade of Coso obsidian in southern California apparently ended during this period.

---

## 2.2 - Native American Background

---

Research sponsored by the City of Moreno Valley (Moreno Valley 2005) as part of their General Plan Draft EIR, states that the Luiseño and Cahuilla peoples occupied the region during the Late Prehistoric period. Unfortunately, there is a lack of concrete archaeological evidence linking the prehistoric site complexes located within the City limits of Moreno Valley (e.g., Moreno Valley 2005:5.10-6 through 5.10-9) to any single modern tribal group. It is likely that northern Luiseño and western Cahuilla peoples accessed this area during the late prehistoric period for resource gathering. Areas located at the base of Mt. Russell would have been a logical place for a trade route, as it would link prehistoric site complexes, such as Pigeon Pass Valley Complex, Reche Hills Complex, Moreno Hills Complex, at the north end of the City with the marshy areas at the north end of the San Jacinto Valley. Serrano peoples may have used the San Jacinto Valley to link with their more southern groups.

### 2.2.1 - Cahuilla

According to several researchers (Kroeber 1925; Bean 1978), the Cahuilla Indians occupied the San Timoteo valley prior to contact with Spanish Mission padres and military personnel, which places the project area near their traditional use areas. Bean (1972, 1978) forms the primary modern reference for this cultural group. Bean notes that of all the southern California Indians, the Cahuilla existed within the most geographically diverse region, constrained only by water supplies and topography.

Currently, it is thought that a migration of Shoshonean peoples from the Great Basin occurred approximately 1,000 to 600 years ago, with populations moving into much of desert and coastal Southern California. Included among these migrants were the forbearers to the modern Cahuilla. The Cahuilla spoke a language that belongs to the Cupan group of the Takic subfamily of the Uto-Aztecan language family, a language family that includes the Shoshonean groups of the Great Basin.

The prehistoric Cahuilla were characterized by the occupation of sedentary villages in subsistence territories that permitted them to reach the majority of their resources within a day's walk. Villages were commonly located near reliable sources of water. During October to November, much of the village population moved to temporary camps in the mountains to harvest acorns and hunt game. Inland groups also had fishing and gathering spots on the coast that they visited annually. In comparison with the Gabrieliño and Luiseño, the Cahuilla appear to have had a lower population density and a less rigid social structure. The Cahuilla patterns may have been relatively stable until mission secularization in 1834, due to the policy of the Catholic Mission fathers or padres to maintain imported European traditional style settlement and economic patterns (Bean and Shipek 1978).

## 2.2.2 - Luiseño

Of all the southern California native groups, the Luiseño have been the most ethnographically studied and the literature is rich in detail. The Luiseño, belong to the Shoshonean linguistic family a vastly used language family used also by Cahuilla, Gabrieliño, and the Cupeño as well as other desert tribes such as the Kamia, Chemehuevi, Paiute and Serrano (Bean and Shipek 1978; Sparkman 1908; Strong 1972). The Luiseño occupational areas encompass over 1,500 square miles of southern California (Bean and Shipek 1978; Kroeber 1925) as well as the Channel Islands (Sparkman 1908). Luiseño villages could be found along the Pacific Ocean just north of Agua Hedionda and south of Aliso Creek. Also, villages moved inland from these points to the western base of the San Jacinto River and south to the valley of San Jose, near Fallbrook (Bean and Shipek 1978). The villages were determined according to their proximity to a defined water source, access to a food-gathering locale, and in good defensive locations (Bean and Shipek 1978). Spatially, these villages were commonly located along valley bottoms, streams, or coastal strands. The Luiseño characteristically lived in sedentary villages, therefore one clan or family occupied several food-gathering locations and aggressively guarded these areas against other clans (Bean and Shipek 1978; Sparkman 1908; Strong 1972).

Luiseño homes were constructed in two forms; one variation was typically constructed with forked posts, which supported the wood ceiling beams, and were completely covered in thatch, which was lightly mixed with sand or soil (Bean 1978; Kroeber 1925). This form was generally seen in larger constructions, while the smaller home style had a slightly conical roof made of some locally available brush and the floor was usually excavated two feet below ground surface. All homes were built with a small fire pit in the center, and a slight smoke hole in the roof just above the fire (Bean 1978; Bean and Shipek 1978; Kroeber 1925). Sweat houses were of similar thatch design to that of the smaller home pattern, but varied in its construction in that it stood on two forked posts connected by log and was shaped like an ellipse, with an entrance on one of the longer sides of the structure.

The pottery associated with the Luiseño was functional, and was consequently simply constructed and lacked unique ornamental design features, although Bean and Shipek note that if designs were included, they were characterized by “a simple line decoration was either painted or incised with a fingernail or stick” (1978). Luiseño pots were made using the coil technique, in which pieces of coiled clay are gradually added to the edge of the pot, while it is being shaped with a wooden paddle and finished with a polishing stone. After completion, the pot is sun-baked and fired (Sparkman 1908). Typical uses of pottery were for cooking, water jugs, containers and a water vessel with two spouts used while members were gathering food (Sparkman 1908). Plant fibers were also commonly used for purposeful household implements such as brooms, brushes, nets, pouches twine, and cedar bark skirts for women. The process of creating such items from plant fiber tends to rely on soaking, stretching, and then rolling the fiber (Sparkman 1908; Bean and Shipek 1978).

Ceremony and ritual was of great importance to all native peoples and the Luiseño had their own variety of traditional practices. Frequently practiced ceremonies included a multiple of rituals for the mourning of the dead, the eagle dance, separate boys' and girls' initiation rites ceremonies, and a summer and winter solstice celebration (Kroeber 1925; Sparkman 1908; Strong 1972). These ceremonies offered gatherers an opportunity to witness reenactments, songs, and the oral recitation of their history (Garbarino and Sasso 1994). Equipment important during rituals included blades made of obsidian, stone bowls, clay figurines, and headdresses constructed of eagle-feathers (Bean and Shipek 1978). Ritual dances were limited to only three standard dances such as the fire dance, which was used during the Toloache Cult initiation for boys at puberty. Also of great significance during the boys' initiation were masterfully designed sand paintings. These sand paintings were thought to have originated in the Southwest, yet are completely and culturally Luiseño (Bean and Shipek 1978; Garbarino and Sasso 1994; Kroeber 1925). Although not necessarily limited to ritual, Heizer and Whipple comment that the Luiseño of Riverside County decorate their rock designs in the same form as that of the native peoples of the Great Basin, which appears as pecked abstracts displayed on boulders (1971).

Personal adornment was a common practice among the Luiseño. Ornamental items such as beads and pendants were made of clay, shell, stone, deer hooves, bear claws, and mica sheets. Men would wear ear and nose ornaments sometimes made of bone or cane with beads attached. Body painting and tattooing were practiced purely for rituals (Bean and Shipek 1978).

### 2.2.3 - Serrano

With reference to Bean and Smith (1978), the area where the project lies is near the southern edge of an area used by the Serrano. The Spanish decimated all indigenous groups adjacent to the eastern San Bernardino Mountains, but some Serrano survived for many years thereafter in the far eastern San Bernardino Mountains due to the ruggedness of the terrain and the dispersed population. Kroeber (1925) and Bean and Smith (1978) form the primary historical sources for this group. It is believed that Serrano families inhabited the *Guachama Ranchería* or *Politana* in the early 1800s. This village apparently housed the Rancho San Bernardino *estancia* after about 1819.

The Serrano spoke a language that belongs to the Cupan group of the Takic subfamily of the Uto-Aztecan language family, a language family that includes the Shoshonean groups of the Great Basin. The total Serrano population at contact was roughly 2,000 people. Their range is generally thought to have been located in and east of the Cajon Pass area of the San Bernardino Mountains, north of Yucaipa, west of Twenty-nine Palms and south of Victorville. Like all prehistoric Californians, the range of this group was determined by reliable water sources.

Serrano populations studied in the early part of the last century were a remnant of their cultural form prior to contact with the Spanish Missionaries. Nonetheless, the Serrano are historically viewed as clan and moiety-oriented or local lineage-oriented group tied to traditional territories or use-areas. Typically, a village consisted of a collection of families centered about a ceremonial house, with

individual families inhabiting willow-framed huts with tule thatching. Considered hunter-gatherers, the Serrano exhibited a sophisticated technology devoted to hunting small animals and gathering roots, tubers, and seeds of various kinds. Today, Serrano descendants are found mostly on the Morongo and San Manuel reservations.

---

## 2.3 - Historic Background

---

### 2.3.1 - Spanish Period (A.D. 1769 to 1821)

Father Junipero Serra was sent to Alta California to create a chain of Missions and Mission outposts to bring Christianity to the indigenous population, and create a foundation for colonization of the region. Located between the previously established presidios in Monterey and San Diego, Serra had military assistance in his quest and the San Bernardino area came under the early control of Spanish soldier Pedro Fages and Father Francisco Garces. According to Juan Caballeria (1902 in Lugo 1950), on May 20 1810, Father Francisco Dumetz founded and performed a ceremony to consecrate a new Mission San Gabriel supply station, including a chapel, at the *Guachama Ranchería*. This was an existing native village near the mouth of San Timoteo Canyon. According to Harley (1988 and 1989), it is likely that Dumetz never made this trip and that Caballeria, who was the keeper of Mission San Gabriel history at the time, had fabricated much of the story.

In 1819, Rancho San Bernardino was established. This followed a decision by the heads of the mission system to expand their agricultural holdings into the interior and later establish a chain of additional Missions in the desert interior (Harley 1989). A decision was made to create an *estancia*, or a ranch headquarters with a chapel that was occasionally visited by padres at the *Guachama Ranchería*. Indian attacks forced the *estancia* overseers to move the headquarters from the original site to a better-protected location. The so-called San Bernardino *Asistencia* was located on high ground 1.5 miles to the east-southeast of the original *estancia*. Construction began about 1830, and it was not yet finished when the project was abandoned in 1834. Lugo (1950) noted that between 1830 and 1832, a large house, and other buildings were constructed, which his family occupied after the Rancho was granted to him by Mexican authorities. The rancho traditions were kept once Mexico was established, but without the original authority of the Mission padres.

### 2.3.2 - Mexican Period (A.D. 1821 to 1848)

After years of internal fighting, Mexico achieved its independence from Spain in 1821 and Alta California became the northern frontier of the State of Mexico (Gunther 1984). The Mission padres were then forced to swear allegiance to Mexico in 1822. Secularization of the missions took place over the next decade and the former mission lands were transferred to the large Mexican families that had settled in the area (Gunther 1984). Affiliated with Mission San Luis Rey, the Rancho San Jacinto was formed on December 21, 1842 and granted to Jose Antonio Estudillo. This rancho provided Estudillo with twice as much land, 8 square leagues (about 46,080 acres), as he had petitioned for the previous August. Lands north of the modern Alessandro Boulevard were not claimed by any family,

probably because little reliable water existed in the area, except for the Mystic Lake cienega, and because it was a two-day ride from the closest Missions, San Gabriel, and San Luis Rey. The property was petitioned for division by Estudillo's brother-in-law Miguel de Pedorena, soon after and a small portion of The Badlands north of Hemet was added to form the Rancho San Jacinto Nuevo y Potrero.

Lech notes (2004) that a wagon road lead from the Rancho San Jacinto headquarters northwest along the base of The Badlands, to the springs in the Box Springs Mountains east of what is now Riverside, and then to other roads near the Santa Ana River. This route, which purportedly lay along Gilman Springs Road, has been used for travel for over 160 years. The primary purpose of the interior ranchos during the Mexican Period was to raise cattle and sheep, however beyond the Mystic Lake *cienega* west of Eden Hot Springs, little reliable water was found north of San Jacinto. The trail could have brought travelers along the base of Mt. Russell and past site CA-RIV-21 (The Moreno Maze) and past the area now known as Moreno, as this would shorten the trip to Box Springs. The upper San Jacinto Valley has proved to be agriculturally marginal, a factor that limited agricultural growth expansion until irrigation water could be brought into the area by the Eastern Municipal Water District..

### **2.3.3 - Moreno Valley and the Bear Valley & Alessandro Development Company**

The SP is located on either side of Theodore Street, which was the easternmost border of the old Bear Valley and Alessandro Development Company (BV&A) development. BV&A conceptualized the town of Moreno and the community of Alessandro in 1889. Frank Elwood Brown, an engineer who moved to California in 1876 was the co-founder with Hiram Judson of the town of Redlands. In 1890, Brown and other investors formed the BV&A to "plat out new towns, bring Bear Valley water to the [Moreno] Valley, and open another large area to agricultural and town site development" (Lech 2004). Brown and Judson began growing citrus in Redlands between 1878 and 1882 using meager local water supplies. Brown formed the Bear Valley Land and Water Company (BVLWC) in the early 1880s and constructed the Big Bear Dam in 1883. After successfully creating Big Bear Lake, at that time the largest man-made reservoir in the world, water began flowing from the dam through a series of flumes and canals to Redlands orchards in 1885. This demonstration led locals to believe that the area could be successfully irrigated using water brought in from the mountains to the north. The potential for Big Bear Lake seemed enormous because the winters between 1875 and 1885 were some of the wettest winters on record. Brown assumed that the abundance of water stored in the reservoir in those years was typical and would continue as such.

With little knowledge of precipitation fluctuations in southern California, water supplies were overblown to prospective investors and Brown and others fostered grandiose schemes for attracting them. Between 1889 and 1890, Brown began trading stocks derived from his own companies to develop land south of Redlands and consolidate his water rights. After organizing the BV&A in 1889, Brown and his associates bought all of the BVLWC stock individually. They then incorporated

the Bear Valley Irrigation Company (BVIC), which bought all of the original BVLWC stock, including the dam, from the BV&A (Lech 2004).

Clearly, Frank Brown was hoping to duplicate the success of the City of Redlands, which by 1890 was a thriving commercial citrus center north of the Badlands and located along an established railroad right-of-way. Turning his attention to the project region and cheap land therein, a 280-acre town site named the Town of Moreno was established. Initially, the town was to have been named New Haven, after New Haven, Connecticut where many of the investors, including Brown, were from. However to honor Brown, the name Moreno, which is the Spanish word for “brown,” was chosen. North-south streets in the BV&A development in Moreno and Alessandro were named for the corporation leaders, while east-west streets were named for plant and tree species common in California at the time. Hopes were high that Moreno would prosper and local newspapers in 1891 declared that “Moreno will be a rail road town in the future [which has] every advantage of the most favored locality in Southern California and the disadvantages of none.”

In April 1891, an estimated 1,500 and 2,000 people went to the new town site of Moreno to purchase town lots being sold at public auction from Brown and his cronies. In the following eight months a Congregational Church, four brick commercial buildings, a lumber yard, two brick yards, a cement pipe works, and a school were constructed with as many as thirty houses being built at one time. By 1893, the Hotel de Moreno, three stories high and encompassing an entire city block, was operational and doing a brisk business with people needing a place to stay while developing their land. Investors interested in Moreno Valley land were from nearby regions: Los Angeles, San Diego, San Bernardino, and from as far away as Wisconsin, Pennsylvania, and New York. A map was created to show potential buyers what types of irrigation systems would be built and where the land was located (MBA 2006). Most were trying to cash in on the land boom that had swept California.

Moreno had become the latest in a string of small boomtown with new businesses developing, and orchards and crops being planted on nearby fields. The success for both local businesses and the farmers depended on the availability and consistency of water. Although Brown had studied the feasibility of bringing water into the Valley and had initially been successful in bringing water in from Bear Valley, by 1893 Brown and others realized that without a higher dam, the reservoir could not hold enough water to meet the irrigation needs of both Redlands and Moreno. To worsen the situation for Moreno, Redlands was the town for whom the reservoir was initially built and therefore had first rights to the water. A legal suit won by Redlands in 1894, in effect permanently shut off the water to Moreno, although a local judge ordered that domestic water to Moreno homes was allowable (Lech 2004).

In addition to the lack of water, it is likely that the Recession (Panic) of 1893 forced many potential farmers in southern California to reconsider their options, and the new farmers and speculators abandoned their properties. The Panic was caused by railroad overbuilding and speculation, much of which was driven by westward expansion into California. According to several sources, over 15,000

businesses and 500 banks failed during this period, many of them in California. The Northern Pacific Railway, the Union Pacific Railroad, and the Atchison, Topeka & Santa Fe Railroad all failed. The resultant depression lasted for three years and farmers went bankrupt nationwide; good economic times did not resurface until about 1899. By that time, the speculative land boom in this part of Southern California was over.

## SECTION 3: ENVIRONMENTAL COMPLIANCE PARAMETERS

### 3.1 - CEQA and Cultural Resources

Under California law, a cultural resource may be considered a *historical resource* if it is significant within the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California or if it meets the criteria for listing on the California Register of Historical Resources (CRHR). Each cultural resource within a developmental project area must be evaluated by a technical professional to determine if the resource is a “unique archaeological resource” and use certain criteria within the CEQA Guidelines as the basis for making these statements. “Unique archaeological resource” means an archaeological artifact, object, historic building, or site that can be clearly demonstrated, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. *Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.*
2. *Has a special and particular quality such as being the oldest of its type or the best available example of its type.*
3. *Is directly associated with a scientifically recognized important prehistoric or historic event or person.*

Once uniqueness has been determined, a further step is necessary, one in which the resource is determined to be a historical resource. According to the California Code of Regulations (CCR), Title 14, Chapter 3 Section 15064.5, the term “historical resources” includes the following:

1. *A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4850 et seq.).*
2. *A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.*
3. *Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency’s determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be “historically significant” if the*

*resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4852) including the following:*

- 1 Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;*
- 2 Is associated with the lives of persons important in our past;*
- 3 Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or*
- 4 Has yielded, or may be likely to yield, information important in prehistory or history*

Typically, cultural resources of an archaeological nature that exhibit buried and intact features qualify for the CRHR under Criterion 4 because such features will likely yield information important to the prehistory of California. If a resource is not listed in or has not yet been determined to be eligible for listing in the CRHR, not included in a local register of historical resources pursuant to Section (§) 5020.1(k) of the PRC, and/or identified in an historical resources survey meeting the criteria in § 5024.1(g) of the PRC, the lead agency may still choose to determine that the resource is an historical resource as defined in Public Resources Code (PRC) Sections 5020.1(j) or 5024.1.

In California, the EIR is a document lead agencies use to delineate substantial evidence that may exist before a developmental project is approved. For the purpose of the cultural resource analysis in an EIR, Section 15126.4(b) of the CEQA Guidelines addresses mitigation measures related to impacts to historical resources. Cultural resources that are not historical resources (i.e., determined not significant), but are still unique, are subject to less stringent requirements regarding mitigation of impacts (see Section 21083.2 of the CEQA Guidelines).

### **3.1.1 - Prehistoric Cultural Resources**

Historical resources that are archaeological in nature are specifically discussed in Section 15126.4(b)(3). For such resources that are known to the lead agency, an EIR should address the constellation of possible mitigative processes because “preservation in place” is the preferred manner (but not the only manner) of mitigating for impacts to such resources. If more than one mitigation is available to mitigate an impact to an archaeological resource, the EIR should discuss each type and identify the basis for selecting a particular measure. However, unknown (buried) historical resources that could be encountered during project-related earthmoving are those resources that were not known to the lead agency while the EIR was being considered. In addition, such resources cannot be assessed as to their historic or unique natures before project construction begins. Discovery of cultural resources during project-related earthmoving (whether they are historical resources or not) can be mitigated for by developing performance standards that the lead agency believes is “roughly proportional” (see CEQA Guidelines Section 15126.4(a)(4)[B]) to the impacts of the project. There is no legal requirement to avoid such resources unless the discovery is a burial in an undedicated cemetery (see HSC 7050.5 and PRC 5097.98).

---

## 3.2 - City of Moreno Valley General Plan

---

The City approved its latest General Plan in 2006. Objectives and policies associated with prehistoric and cultural resources can be found on-line: [http://www.moreno-valley.ca.us/city\\_hall/general\\_plan.shtml](http://www.moreno-valley.ca.us/city_hall/general_plan.shtml). The Chapter 7 Conservation Element of the GPU discusses the cultural resource background of the City as a whole. The Chapter 9 Goals and Policies section provides the following guidelines to City staff:

**Objective 7.6:** Identify and preserve Moreno Valley’s unique historical and archaeological resources for future generations.

Policies in response to Objective 7.6:

- 7.6.1) Historical, cultural and archaeological resources shall be located and preserved, or mitigated consistent with their intrinsic value.
- 7.6.2) Implement appropriate mitigation measures to conserve cultural resources that are uncovered during excavation and construction activities
- 7.6.3) Minimize damage to the integrity of historic structures when they are altered.
- 7.6.4) Encourage restoration and adaptive reuse of historical buildings worthy of preservation
- 7.6.5) Encourage documentation of historic buildings when such buildings must be demolished.

Although the goals and policies are minimal, one aspect of these requirements is that a professional cultural resource manager must use his/her skills to define when a cultural resource becomes “significant” within the context of Moreno Valley history. This requires an assessment with consideration for a Threshold, and certain types of cultural resources will have an intrinsic value to the City. City policy suggests that, despite the technical manifestations of CEQA policy as discussed above in Section 3.1.1 (Definition of Cultural Resource Sites and Isolates), any cultural resources uncovered during project-related excavation and construction activities should be preserved.

Prehistoric sites on Mt. Russell and located within lands under the jurisdiction of the City and the County of Riverside are part of an unofficial prehistoric district known as the Wolfskill Ranch North Complex, and its general location has been published in the Moreno Valley General Plan Final EIR (MV 2006). Page 5.10-14 of the Moreno Valley General Plan Final EIR notes that the North Complex is located on Open Space and that the potential impact to all prehistoric cultural resources in the City, including those on the Wolfskill, is considered a significant impact. For this reason, we

recommend that all prehistoric resources in the boulder-strewn foothills of Mt. Russell be avoided during construction in the SP.

---

### 3.3 - Thresholds of Significance

---

If a professional is asked to determine if a cultural resource is significant under CEQA Guidelines and therefore subject to mitigation prior to development, a threshold of significance should be developed prior to testing/evaluation. This is a procedure recommended to professionals by the Office of Historic Preservation (OHP) / State Prehistoric Preservation Officer (SHPO). The threshold of significance is simply a point where the qualities of significance are defined during the analysis such that the resource can be defined as a historical resource. An adverse effect to a historic resource is regarded as the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource will be reduced such that it no longer meets the significance criteria. In lay terms, should an analysis show that future development will destroy elements that make the cultural resource historical, but leave non-unique elements intact, then the significance of the resource will be lost and there must be mitigation for that loss.

If a prehistoric cultural resource is tested, it is traditionally held that buried features such as, hearths, burials, middens, etc., could hold analytical information that will pass the significance threshold and make the site eligible for the CR under Criterion D alone. For resources created after the historic period began (post-1769 AD) and which are at least 45 years old, analysis of the condition and integrity of exposed features may cause the resource to pass Criterion A, B, C, and/or D thresholds. For buildings and other structures at least 45 years old, the completeness and integrity of the structural architecture may cause the site to pass Criterion A, B, and/or C thresholds.

The threshold should be associated with the site context or theme. If sets of unusual artifacts, buried but unusual buildings, or human remains are detected during tests of cultural resources in the project site, or if a historical review of the resource finds that it was once associated with a person and/or event of historical significance at the State/National level, such resources will likely be considered potentially significant for CR/National Register of Historic Places (NRHP) listing. In the event that the significance of the historical resource will be reduced below the threshold because of development, feasible mitigation must be developed.

#### 3.3.1 - Definition of Cultural Resource Sites and Isolates

Prehistoric and historic cultural resources can vary in form and function from area to area, but it is a “site” as opposed to isolated artifacts and certain features that could be considered significant. Prehistoric and historic cultural resource sites are defined in this study as three or more items, such as flaked lithics, projectile points, grinding tools, glass, cans, etc., that are not from a single source or material found within a 10 square meter area. There is no limit to the physical size of a site.

Sites that could qualify as significant are typically more than 45 years old or have the potential to be more than 45 years old. These definitions assume that items found in an area with a diversity of materials can represent more than a single activity at a location. Discrete components of a site may be identified to represent repeated activity, such as milling stations, hearths, or isolated structures.

Isolated artifacts and certain isolated features do not meet these minimal criteria. Isolates could consist of one or two cans, stone flakes, one metate fragment or fence posts, brass section markers, or well heads. Potential impacts to isolates need not be mitigated for.

---

### **3.4 - The Federal Section 106 Process**

---

Although not required for the purposes of this analysis at this time, a review of techniques associated with the Section 106 process can assist in understanding State and local evaluative processes. It is possible that Section 106 may need to be applied if a federal regulatory nexus is found while the project is being planned. The federal term for a significant cultural resource (“historic property”) is different from that found in the CRHR Criteria for Listing (historical resource).

Federal agencies are required to consider the effects of their actions on historic properties and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings under Section 106 of the National Historic Preservation Act (NHPA). Federal agencies are responsible for initiating Section 106 review and completing the steps in the process that are outlined in the regulations. Furthermore, Section 106 requires that any federal or federally assisted undertaking, or any undertaking requiring federal licensing or permitting, consider the effect of the action on historic properties listed in or eligible for the National Register of Historic Places (NR). Under Code of Federal Regulations (36 CFR) Part 800.8, all federal agencies are specifically required to comply with Section 106 and National Environmental Policy Act (NEPA) processes. The implementing regulations “Protection of Historic Properties” are found in 36CFR Part 800. Resource eligibility for listing on the NR is detailed in 36CFR Part 63 and the criteria for resource evaluation are found in 36CFR Part 60.4 [a-d].

Properties less than 50 years old may be considered for listing in the NR if they exhibit exemplary cultural characteristics. Listing on the NR requires integrity, and it is the integrity of the resource that must be addressed first in any one analysis.

The NHPA established the NR as the official federal list for cultural resources that are considered important for their historical significance at the local, State, or national level. To be determined eligible for listing in the NR, properties must meet specific criteria for historic significance and possess certain levels of integrity of form, location, and setting. The criteria for listing on the NR are nationally significant in American history, architecture, archaeology, engineering, and culture as present in districts, sites, buildings, structures and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- A. Is associated with events that have made a significant contribution to the broad patterns of our history;
- B. Is associated with the lives of persons significant in our past;
- C. Embodies the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic values, represent a significant and distinguishable entity whose components may lack individual distinction; and
- D. Yields, or may be likely to yield, information important in prehistory or history.

---

### **3.5 - Paleontology**

---

Although not specifically discussed in the Moreno Valley General Plan, potential impacts to Paleontological resources are covered in Appendix G - Section 5(c) of the CEQA Guidelines. This requires that during Initial Study screening, the Lead Agency must determine whether a project could directly or indirectly destroy a unique paleontological resource or site or a unique geologic feature. A qualified paleontologist should undertake a determination of this aspect of the environmental compliance analysis, then offer their conclusions to the City for its review and concurrence.

## SECTION 4: RESEARCH DESIGN AND BACKGROUND RESEARCH RESULTS

The primary purpose of our Phase 1 cultural resource survey is to locate and document previously recorded and/or new cultural resource sites and isolates within the SP. We examined the SP during the survey using a block-transect technique, with 10 to 15-meter spacing between each archaeologist depending on field conditions. The State Historic Preservation Office (SHPO) recommends all newly identified cultural resources detected during a survey, or resources previously recorded but needing update, be recorded on new-issue Department of Parks and Recreation (DPR) 523 forms. If the local representative of the SHPO (The Eastern Information Center at the Department of Anthropology, U.C.-Riverside: EIC) possessed site forms for previously recorded sites in the SP, such forms should be reviewed by the compliance archaeologist for completeness on the basis of current conditions. New isolated discoveries should be recorded, but need not be further mitigated for. Cultural resource sites should undergo further cultural resource technical work efforts (such as Phase 2 significance testing) if project site development has not been planned to avoid them.

Nine prehistoric cultural resource sites were authorized for Phase 2 testing by the Proponent in 2006. These sites are: CA-RIV-610, CA-RIV-860, CA-RIV-3238, CA-RIV-3343, CA-RIV-3344, CA-RIV-3345, CA-RIV-3346, CA-RIV-8006, and CA-RIV-8007. Two historic cultural resource sites were authorized for Phase 2 testing by the Proponent in 2012. These are: CA-RIV-4201 and CA-RIV-4210. Historic site CA-RIV-5862 was relocated during the final surveys in January 2012 and evaluated for significance at that time because it exhibited a decomposed superstructure.

---

### 4.1 - Phase 1 Cultural Resource Survey Research Design

---

Previous research can provide a general basic understanding of cultural resources that might be found within the SP. General topic areas common to California prehistory include: 1) prehistoric chronology, 2) subsistence strategies, 3) settlement patterning, 4) exchange, and 5) tool technology. Historic topic areas include: 1) land use, 2) personal backgrounds and 3) construction timetables. These general topics as contexts for research are difficult to address at the inventory level of analysis, but do provide a background for making statements about what is seen during an inventory. These topics allow for resource type and potential content to be understood and evaluated within a local historical framework as well as within the broader historical context of the region.

The purpose of a cultural resource survey is to find and describe all cultural resources more than 45 years old that could be affected by the construction of the proposed project. Thus, the ultimate goal of the Phase 1 survey was to determine whether cultural resources are located within or near the SP, what type of resources are present or could be present, then predict the chance for future discoveries of cultural resources once construction began. Survey research assumptions for prehistoric-era resources consisted of the following:

1. Prehistoric resources will be found in areas that exhibit exposed bedrock or springs.

2. If prehistoric sites were used as more than a temporary encampment, they would likely exhibit milling slicks, stone artifacts, and other indications of long-term occupation, such as rock art, house pits, animal bones, or pottery. Some of this could be buried, and obscured from view.
3. Permanent habitation sites should be located near reliable water sources and should be located in areas that supported more than a single biological zone within a reasonable travel in the prehistoric past.

Survey research assumptions for historic-era resources consisted of the following. Research on the late historic period should be augmented with a review of any historic aerial photographs that could be obtained during the background analysis:

1. It is unlikely that historic buildings would have been built in or near the project site prior to the establishment of a pipeline leading from Big Bear Dam, through Redlands, San Timoteo Canyon and south along Redlands Boulevard. Historic buildings therefore should date no earlier than 1891.
2. Due to a lack of natural water resources that could be used for farm irrigation in this area, historic-era cultural resources should be located near the irrigation systems purportedly established in 1891.

During most of the surveys, the archaeological crews were lead in the field by the lead author, Mr. Dice. All cultural resources detected were photographed and plotted using hand-held Global Positioning System (GPS) devices. New cultural resources were recorded on DPR523 forms and submitted to the EIC for review and issuance of primary numbers and trinomials as needed.

---

## 4.2 - Phase 2 Testing Research Design

---

All archaeological excavations in the State of California require a scientifically-oriented research design following professional standards. Research questions associated with the sites in the project site should be designed to provide some scientific data, and allow a determination of significance as part of the CEQA process, without total site loss through the Phase 2 testing fieldwork. This subsection describes how a data sample at each individual cultural resource site will be collected such that a reasonable set of statements about the potential prehistory or history of each resource can be made. Once the archaeologists have collected an appropriate amount of data, the significance determination can proceed. A local Native American group (the Soboba Band of Luiseño Indians) were contacted in advance of testing and provided a representative while the fieldwork was undertaken.

Although the significance test is the main priority, the following research issues can be addressed at the Phase 2 testing level of analysis. However, landowner authorization to trespass must be received in order to undertake a Phase 2 analysis on private land:

#### **4.2.1 - Time**

##### **When was this site occupied?**

The MBA Team shall attempt to amplify the distinguishing temporal characteristics of the site(s) such that a more detailed model of the date of occupation and the socio-functional activities of the site can be drawn. Historic-era sites can be evaluated utilizing historic maps and aerial photographs that might be able to be obtained.

#### **4.2.2 - Economics**

##### **What types of resource procurement was occurring on or near the site?**

Knowledge of how people survived year after year is a crucial parameter in the analysis of economic functions. We assume that prehistoric cultural resources may represent an encampment or small village because adjacent water resources were likely limited to small springs. It may be possible to determine this if economically important features are located within the site(s) boundary. Prehistoric resource procurement modes will allow for local modeling of site activities. Historic-era sites were built by farming families for the purpose of citrus and ranching. The types of products grown there and how day-to-day economic activities occurred will allow for a better understanding of small communities during the historic period.

#### **4.2.3 - Site Function**

##### **What types of subsurface features exist and what might be their function?**

It is possible that prehistoric hearths, house depressions, or other types of permanent fixtures will be located onsite during the testing. Human remains in the form of cremations (later occupation horizons) or inhumations (earlier occupation horizons) are also possible. An evaluation of those features and whether they are reasonably well preserved may be possible through subsurface excavation. Historic-era resources could include foundations of buildings plus superstructures, buried and abandoned features such as vaults, seepage pits, cisterns and sublevel foundations and rooms.

#### **4.2.4 - Site Behavior**

##### **What was the aboriginal subsistence strategy during the Prehistoric Period?**

A summary of findings associated with research questions regarding Time, Economics, and Site Function, may allow for a description of local subsistence strategy. This analysis may permit an estimate of the types of prehistoric sites that may be encountered if the project area is developed.

---

### **4.3 - Test Excavation Plan**

---

#### **4.3.1 - Prehistoric Sites**

Nine of 11 prehistoric cultural resources in the SP underwent the Phase 2 testing program in 2006, at the Proponents request. Each appear to be bedrock milling sites and one (CA-RIV-3346) exhibited a midden in a drainage that may have had spring water flows during the prehistoric period. Site CA-RIV-3347, was not tested because it is located several hundred feet south of the flats and site CA-

RIV-2993 was not tested because the parcel within which the site lies was added to the SP in April 2012.

Sites Phase 2 tested were: CA-RIV-610, CA-RIV-860, CA-RIV-3238, CA-RIV-3343, CA-RIV-3344, CA-RIV-3345, CA-RIV-3346, CA-RIV-8006, and CA-RIV-8007. Review of the post-discovery history of these 9 sites that were tested shows that the lowermost slopes of Mt. Russell were never plowed for agricultural use likely because topsoil depth was very thin; in some places less than 20cm deep. Any surface artifacts found on these resource sites were to be identified and plotted using a GPS device, but none were observed.

The surface qualities of each tested prehistoric resource shall be described in detail on new DPR523 forms and the locations of the prehistoric features (milling slicks on bedrock outcrops and slabs) shall be plotted using a GPS device. Subsurface testing shall occur using the shovel-test pit method, where the bedrock outcrops that hold the milling features are surrounded by excavated shovel test pits, each designed to investigate whether artifacts and features are located near the milling surfaces. When a standard shovel test was undertaken, at least 4 shovel test pits 50 centimeters (cm) in diameter and at least 50cm deep or to bedrock were excavated around each bedrock slab that exhibited milling surfaces within each prehistoric site. Most of the individual bedrock slabs in these sites were defined as a Feature, and any number of milling slicks and mortars could appear upon them. Typically, there were 3 milling surfaces on each Feature.

Soils removed during test pitting were screened through quarter-inch mesh. All artifacts encountered shall be plotted using a GPS device and those found in the screen shall be examined and their data collected. Any horizontal stratified deposits that exhibit artifacts or samples shall be drawn on engineering paper and the ends of the cultural strata plotted using a GPS device. The DPR523 form sets with the maps and the shovel test pit locations shall be provided in Appendix E, Confidential Department of Parks and Recreation (DPR) 523 Forms.

Although the research method was designed to collect and preserve artifacts following professional protocols, none were collected nor were any potential samples of soil containing macrobotanicals or microflakes collected as no items were observed. No stratified sediments were detected, so diagrams plotting soil strata and its relationship to the modern ground surface were not needed. Photographs of each test pit were made, as were overview photographs of each prehistoric resource.

#### **4.3.2 - Historic Sites**

There are two historic cultural resources in the SP that the Proponent had authorized Phase 2 testing on in January 2012: CA-RIV-4201 and CA-RIV-4210. Both of these sites were recorded by previous archaeologists in the 1990s and were identified as historic-era farm complexes or homesteads. These sites are located in plowed fields and although a level of testing was planned for these sites that mirrored the techniques used during work on the prehistoric sites, the veneer of plowed topsoil needed to be removed to gauge how much of the sites were actually left before testing could begin.

Removal of the upper two feet of soil proved that both structure complexes had been completely demolished and nearly all of the associated debris removed. Complete removal of debris likely took place because the nearby properties were being planted in dryland barley and the debris fields would disrupt planting and harvesting.

---

#### 4.4 - Paleontological Resource Research Design

---

The potential for impacts to paleontological resources follow a different discovery pathway. Background information will be drawn from various geological and earth-science studies associated with the central portion of the County of Riverside and paleontological resource records search(es) were undertaken by Mr. Eric Scott of the San Bernardino County Museum at the request of Dr. Kenneth J. Lord. Surface manifestations of significant fossil resources were not expected in the Specific Plan because most of the SP has been plowed, and plowing destroys fossil deposits. However, because a certain amount of subsurface excavation must take place during construction it is assumed that there is some possibility that significant paleontologic resources could be uncovered. Our goal is to determine the potential for such finds and the depth upon which it is moderately likely that the resources will be encountered.

---

#### 4.5 - Cultural Background Check Results

---

##### 4.5.1 - Eastern Information Center Data

A series of searches were undertaken for the project on several occasions. The initial cultural resource literature search was conducted by MBA Staff Archaeologist Marnie Kay in May 2005. A second cultural resource literature search was conducted by MBA Project Archaeologist Jennifer Sanka in June 2007. Both searches took place at the EIC, which is located at the University of California - Riverside. To identify any historic properties, both researchers examined the current inventories of the NRHP, CR, California Historical Landmarks (CHL), and California Points of Historical Interest (CPHI). In addition, both researchers reviewed the California State Historic Resources Inventory (HRI) and archival maps for the County and the City to determine the existence of previously documented local historical resources. A search radius of 1.0 mile was used. A third check was undertaken by MBA staff archaeologist Arabesque Said in early 2011. This check was undertaken because a few years had elapsed since the original records searches had been made.

Table 1 and Table 2 list the results of the cultural resources records search for cultural resources in and near the project site. Those listed cultural resources in the "Site Name" column that are highlighted in **bold** are located inside the margin of the project site. The "Location Comments" column provides a summary of the potential impacts to each resource on the basis of location only. The Wolfskill North Ranch Complex, discussed in Moreno Valley General Plan Final EIR (2006), is not listed as a potential district or complex on any EIC database.

Table 1: Sunnymead Quad Map: Previously Recorded Cultural Resources

Site Name	Location	Type	>0.25 mile	>0.5 mile	>1 mile	Location Comments
CA-RIV-21	Sect 18 T3S R2W	The Moreno Maze, a pictograph site.	●			
CA-RIV-202	Sect 19 T3S R2W	Probable village site		●		
CA-RIV-265	Sect 30 T3S R3W	Milling features and artifacts.			●	
CA-RIV-455	Sect 19 T3S R3W	Milling feature			●	
CA-RIV-464	Sect 24 T3S R2W	Pictographs and artifacts: the Charles Mott Site.		●	●	
CA-RIV-480	Sect 30 T3S R3W	Milling features.			●	
CA-RIV-481	Sect 25 T3S R3W	Milling feature			●	
CA-RIV-493	Sect 24 T3S R3W	Milling features are artifacts.			●	
CA-RIV-608	Sect 18 T3S R2W	Milling features.	●			
CA-RIV-609	Sect 18 T3S R2W	Milling features and may have spring/seep.	●			
<b>CA-RIV-610</b>	Sect 18 T3S R2W In Specific Plan	Milling features.				<b>In the SP Boundary near the foothills of Mt. Russell.</b>
<b>CA-RIV-860</b>	Sect 13 T3S R3W In Specific Plan	Milling features.				<b>In the SP Boundary near the foothills of Mt. Russell.</b>
CA-RIV-1020	Sect 4 T3S R3W	Many milling features and some artifacts			●	
CA-RIV-2587	Sect 4 T3S R3W	Milling slicks			●	
CA-RIV-2588	Sect 4 T3S R3W	Milling slicks			●	
CA-RIV-2589	Sect 4 T3S R3W	Milling slicks			●	
CA-RIV-2590	Sect 4 T3S R3W	Milling slicks			●	

**Table 1 (cont.): Sunnymead Quad Map: Previously Recorded Cultural Resources**

Site Name	Location	Type	>0.25 mile	>0.5 mile	>1 mile	Location Comments
<b>CA-RIV-2775</b>	Sect 13 T3S R3W In Specific Plan, renamed resource	Milling features.				<b>Resource renamed CA-RIV-8007 (see below)</b>
<b>CA-RIV-2776</b>	Sect 13 T3S R3W In Specific Plan, renamed resource	Milling features.				<b>Resource renamed CA-RIV-8007 (see below)</b>
<b>CA-RIV-2777</b>	Sect 13 T3S R3W In Specific Plan, renamed resource	Milling features.				<b>Resource renamed CA-RIV-8007 (see below)</b>
CA-RIV-2863	Sect 11 T3S R3W	Milling features	•			
CA-RIV-2864	Sect 11 T3S R3W	Milling features	•			
CA-RIV-2865	Sect 11 T3S R3W	Milling features	•			
CA-RIV-2950	Sect 13 T3S R2W	Milling features.		•		
CA-RIV-2959	Sect 13 T3S R3W	Milling features.	•			
CA-RIV-2960	Sect 13 T3S R3W	Milling features.	•			
CA-RIV-2961	Sect 13 T3S R3W	Milling features.	•			
CA-RIV-2967	Sect 13 T3S R3W	Milling features.		•		
CA-RIV-2969	Sect 19 T3S R2W	Boulder feature.	•			
CA-RIV-2993	Sect 13 T3S R3W	Milling features.				<b>In the SP Boundary near the foothills of Mt. Russell.</b>
CA-RIV-2995	Sect 18 T3S R2W	Milling features and rock alignments.	•			
<b>CA-RIV-3238</b>	Sect 13 T3S R3W In Specific Plan	Milling features.				<b>In the SP Boundary near the foothills of Mt. Russell.</b>
CA-RIV-3340	Sect 19 T3S R2W	Lithic scatter on flats.	•			<b>In the SP Boundary near the foothills of Mt. Russell.</b>
<b>CA-RIV-3343</b>	Sect 13 T3S R3W In Specific Plan	Milling features.				<b>In the SP Boundary near the foothills of Mt. Russell.</b>

**Table 1 (cont.): Sunnymead Quad Map: Previously Recorded Cultural Resources**

Site Name	Location	Type	>0.25 mile	>0.5 mile	>1 mile	Location Comments
CA-RIV-3344	Sect 13 T3S R3W In Specific Plan	Milling features.				In the SP Boundary near the foothills of Mt. Russell.
CA-RIV-3345	Sect 13 T3S R3W In Specific Plan	Milling features.				In the SP Boundary near the foothills of Mt. Russell.
CA-RIV-3346	Sect 13 T3S R3W In Specific Plan	Milling features and a “midden.”				In the SP Boundary near the foothills of Mt. Russell.
CA-RIV-3347	Sect 13 T3S R3W In Specific Plan	Milling features.				In the SP Boundary near the foothills of Mt. Russell.
CA-RIV-4210H	Sect 19 T3S R2W In Specific Plan	Historic structure, foundations, and trash deposit. Old topographic maps and photographs show a farm complex at this location.				In the flats of the SP: phase 2 tested and found Not Significant.
CA-RIV-4211	Sect 30 T3S R2W	Extensive artifact scatter at base of hills			●	
CA-RIV-4212	Sect 19 T3S R2W	Lithic scatter on flats.	●			
CA-RIV-6065 (P33-8168)	Sect 18 T3S R2W In Specific Plan	Buried prehistoric artifacts found during trench work				Buried artifacts found along the MWD pipeline.
CA-RIV-6066 (P33-8169)	Sect 18 T3S R2W In Specific Plan	Buried prehistoric artifacts found during trench work				Buried artifacts found along the MWD pipeline.
CA-RIV-6067 (P33-8170)	Sect 19 T3S R2W In Specific Plan	Buried prehistoric artifacts found during trench work				Buried artifacts found along the MWD pipeline.
CA-RIV-6068 (P33-8171)	Sect 19 T3S R2W In Specific Plan	Buried prehistoric artifacts found during trench work				Buried artifacts found along the MWD pipeline.
CA-RIV-6084 (P33-8266)	Sect 30 T3S R2W	Isolated artifacts found during trenching.	●			Isolate, no need to mitigate for any impact
CA-RIV-6200 (P33-8709)	Sect 6 T3S R2W	Deeply buried (21 feet) hearth	●			Site located within the EMWD tunnel. No impacts foreseen during construction in the SP

**Table 1 (cont.): Sunnymead Quad Map: Previously Recorded Cultural Resources**

Site Name	Location	Type	>0.25 mile	>0.5 mile	>1 mile	Location Comments
P33-7275	Sect 6 T3S R2W	1920s house along Theodore Street.	●			
P33-7278	Sect 11 T3S R3W	1928 Moreno School.	●			
P33-7291	Sect 6 T3S R2W	1915? Armstrong Home.	●			
<b>CA-RIV-8006</b>	Sect 13 T3S R3W In Specific Plan.	Milling slick site.				<b>In the SP Boundary near the foothills of Mt. Russell.</b>
<b>CA-RIV-8007</b>	Sect 13 T3S R3W In Specific Plan.	Milling slick site. Renamed from RIV-2775, -2776 and -2777 during MBA testing project				<b>In the SP Boundary near the foothills of Mt. Russell.</b>
P33-16655 thru 16671	Sect 1 T3S R2W	Kerr Stock Farm complex (on the Skechers property)	●			Previously mitigated for and demolished

Table 2: El Casco Quad Map: Previously Recorded Cultural Resources

Site Name	Location	Type	>0.25 mile	>0.5 mile	>1 mile	Location comment
CA-RIV-2025	Sect 22 T3S R2W	Historic farm structure complex.	●	—	—	
<b>CA-RIV-4201H</b>	Sect 7 T3S R2W	Historic foundation remnants and historic trash along Virginia Street. Old topographic maps and photographs show a farm complex here.				<b>In the flats of the SP: Phase 2 tested and found Not Significant.</b>
<b>CA-RIV-5862</b>	Sect 6 T3S R2W	Historic-era two room farm structure				<b>In SP but on MWD property. Considered not significant due to loss of integrity.</b>
<b>CA-RIV-6200</b>	Sect 6 T3S R2W	Prehistoric firepit 22 feet below grade				<b>Site found during the Gilman tunnel excavation. No impacts foreseen during construction in the SP</b>
P33-12933 (CA-RIV-7172)	Sect 22 T3S R2W	Isolated grinding tools.			●	
P33-12937 (CA-RIV-7173)	Sect 22 T3S R2W	Isolated grinding tools and a scraper.	●			
P33-11621	Sect 21 T3S R2W	Historic farmstead.		●		<b>In the Open Space portion of the SP, cannot be directly impacted by construction in the SP.</b>
P33-11622	Sect 17 T3S R2W	Single stone tool fragment.				
P33-12934	Sect 22 T3S R2W	Single mano.		●		
P33-12935	Sect 22 T3S R2W	Single core.		●		
P33-12938	Sect 22 T3S R2W	Single mano.	●			
P33-13848	Sect 15 T3S R2W	Single metate fragment.		●		
P33-13849	Sect 22 T3S R2W	Single mano.		●		
P33-13850	Sect 15 T3S R2W	Single thinning flake.	●			

Table 1 and Table 2 show that there are a total of 67 previously recorded cultural resources located in and within various distances from the SP. Numerous prehistoric sites are located in the SP on the foothills of Mt. Russell and many significant prehistoric resources are located south of the mountain peak near once-active springs. CA-RIV-6200 was found near the MWD feeder pipe tunnel on MWD land near Gilman Springs Road. This was a prehistoric hearth located about 22 feet below the modern ground surface. The depth of the feature suggested that it had been buried in alluvium derived from floods out of the nearby canyon. CA-RIV-6065, CA-RIV-6066, CA-RIV-6067 and CA-RIV-6068 are artifact deposits that were detected during trenching of a Metropolitan Water District (MWD) feeder pipe along the base of Mt. Russell. These sites were seen in the feeder pipe trench wall only and were not exposed to view at the modern ground surface level. The presence of all these prehistoric resources suggest that the area was habitable for much of the year because reliable water (in Mystic Lake) was available for most of the year. This lake is a semi-desert playa that was probably filled to some degree during most of the prehistoric period, similar to that today. People were likely living along and near the lake margin and used the SP as part of their general resource gathering area. Site CA-RIV-4201, -4210 and -5862 are in the SP and are historic-era farmstead sites. A few other sites consist of historic resources that were mitigated for during land clearance of the Kerr Stock Farm (MBA 2006). Isolated artifacts are also found just outside the southeast corner of the SP near Gilman Springs Road.

#### **4.5.2 - Native American Heritage Commission Commentary**

MBA contacted the Native American Heritage Commission (NAHC) in March 2011 requesting a Sacred Lands File search for traditional cultural properties. This letter was an update to the 2005 information request (both copies added to this report). The response from the NAHC was received on March 25, 2011. The NAHC response indicated that no sacred lands or traditional cultural properties are known for the SP. MBA sent information-request letters to each of the 12 tribal entities named by the NAHC on March 29, 2011. Two responses to our letters were forwarded to MBA staff: one from the Pala Band and another from the Soboba Band. We responded to the Soboba Band by requesting an on-site consultation with Joseph Ontiveros, but as of the date of this report Mr. Ontiveros has not requested to consult with us. Letters received from the tribal contacts subsequent to the date of the final report will be forwarded to the Proponent and the City of Moreno Valley as they are received. In sum, no tribe has notified MBA staff of the existence of traditional tribal properties or Sacred resources within the SP.

#### **4.5.3 - Historic Aerial Photograph Review**

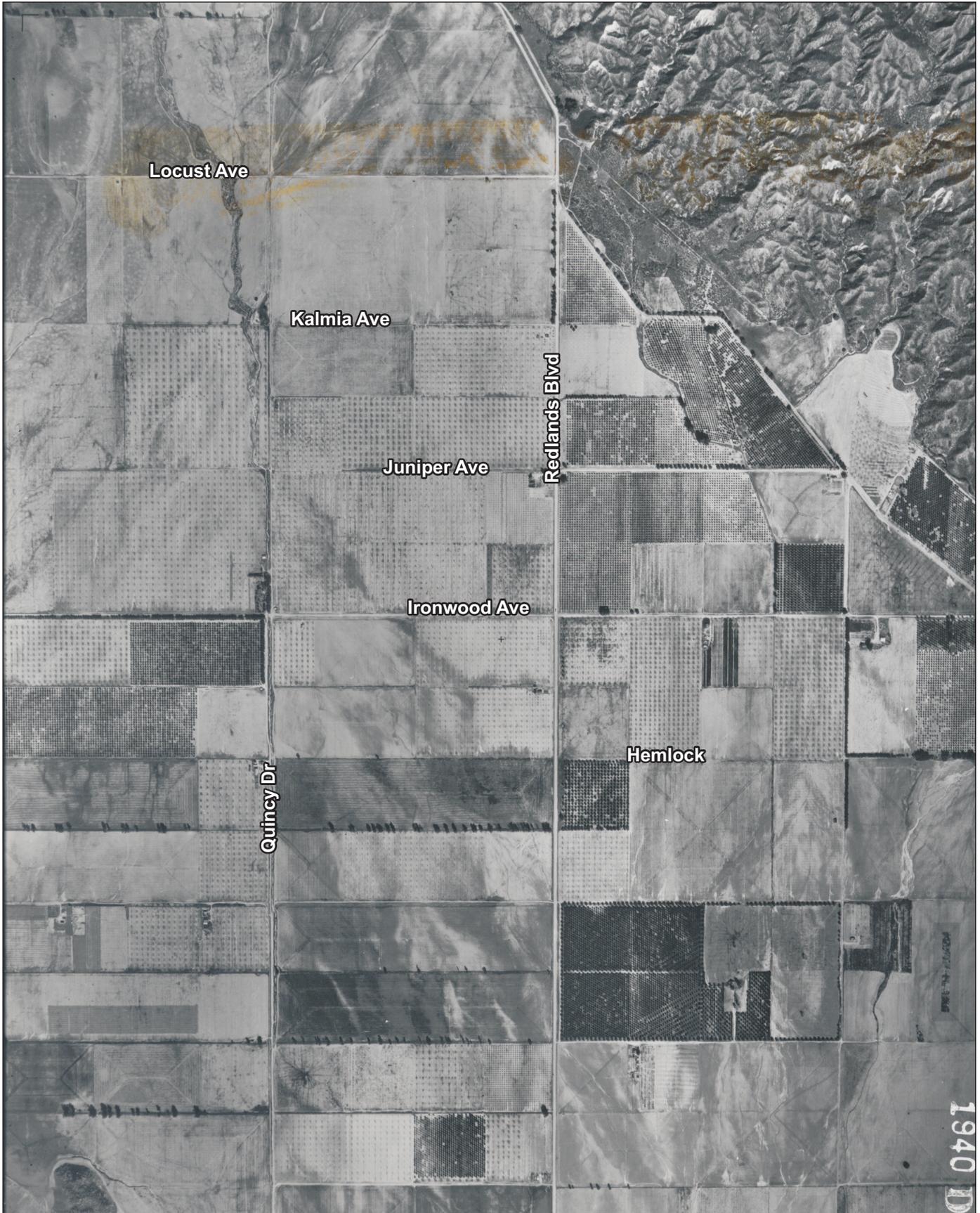
MBA reviewed a group of aerial photographs curated in the now-closed Whittier-Fairchild Aerial Photograph Collection at Whittier College, and two 1953 aerial photographs belonging to the now-closed Rupp Aerial Photography, Inc. of Corona. The purpose of this review was to provide background information on the SP as related to changes in the condition of each individual parcel over time as well as to identify historic-era structures and features that might be encountered during survey or construction.

Three 1932 photos (Flight C-1940), three 1936 photos (Flight C-4058, one 1951 photo (Flight C-16123), and three 1958 photos (Flight C-23023) were purchased from Whittier to assist in interpretation of the SP. Each photograph purchased was a contact print that was then scanned with large pixel counts. The Rupp Aerial photographs were taken by the Department of Agriculture in 1953, with Rupp purchasing the negatives many years later (Flight AKM-8K-86 and AXM-2K-11), and the digital record sent to MBA staff via email.

The photographs were carefully examined for project landmarks then evaluated prior to the field survey for 1) the types of agricultural practices performed upon them over time by the land or leaseholders that might have an effect on the condition of the land and 2) the existence of structures that might have been demolished and plowed over between 1932 and 1960. Such structure remnants can usually be seen or inferred during survey due to the presence of foundations and historic trash. The narrative below discusses areas in the SP that were available as part of the aerial review. Not all portions of the SP for each date were rendered on the photographs.

In February 1932, those portions of the northwest quadrant of the SP (Exhibit 4a, 1932 Aerial - Northwest Portion of Specific Plan) were planted in citrus, alfalfa, hay and possibly grapes. Redlands Blvd may have been paved but it is more likely that it was still dirt. Large-scale flood control features do not exist. The fact that so much of the land elsewhere in this image was growing citrus suggests that groundwater supplies had not yet been depleted. A structure and treed landscaping located northeast of the corner of Redlands and Eucalyptus is still located there. The house is gone but trees and outbuildings/garage are still there. In the northeast corner of the SP (Exhibit 4b), the mouths of the canyons leading into the Badlands had been plowed for dryland crops and a few structures can be seen, including buildings at CA-RIV-5862. Washes carry generally southeast and merge. Gilman Springs Road had not yet been built and dirt roads lead from the Anderson Ranch property (CA-RIV-7297) at the base of the foothills to the Virginia Street farm complex (CA-RIV-4201). In the southeast corner of the SP (Exhibit 4c, 1932 Aerial - Southeast Portion of Specific Plan), Alessandro carries eastward from Theodore, passes the farm complex at CA-RIV-4210, then joins Gilman Springs Road. This is the only street that is paved in the area.

On June 8 1936, the community of Moreno can be seen in the southwest quadrant of the SP (Exhibit 5a, 1936 Aerial - Southwest Portion of Specific Plan). The unplowed foothills of Mt. Russell can be observed and the directional trend in which creeks and washes flow (to the southwest) is clearly evident. Cactus Avenue crosses one of these washes south of Moreno and plowed ground to the east is being used for hay and pasture. On certain properties in the northwest corner of Alessandro and Redlands Blvd grasses (hay) were recently cut with a mechanical mower and left to dry before baling. Ten acres of land is being farmed for citrus, with other citrus groves can be found to the north near the corner of Redlands and Dracaea. The majorities of the properties in this image are in grass. Only Alessandro is paved. Exhibit 5b, 1936 Aerial - Eastern Portion of Specific Plan, shows much of the eastern half of the SP in 1936.



Source: Fairchild Aerial Photography Collection.



Michael Brandman Associates

26100025 • 04/2012 | 4a\_1932\_NW.cdr

## Exhibit 4a 1932 Aerial - Northwest Portion of Specific Plan

HIGHLAND FAIRVIEW OPERATING COMPANY • WORLD LOGISTICS CENTER SPECIFIC PLAN  
PHASE I AND PHASE II CULTURAL RESOURCES ASSESSMENT



Source: Fairchild Aerial Photography Collection.



Michael Brandman Associates

26100025 • 04/2012 | 4b\_1932\_NE.cdr

## Exhibit 4b 1932 Aerial - Northeast Portion of Specific Plan

HIGHLAND FAIRVIEW OPERATING COMPANY • WORLD LOGISTICS CENTER SPECIFIC PLAN  
PHASE I AND PHASE II CULTURAL RESOURCES ASSESSMENT



Source: Fairchild Aerial Photography Collection.

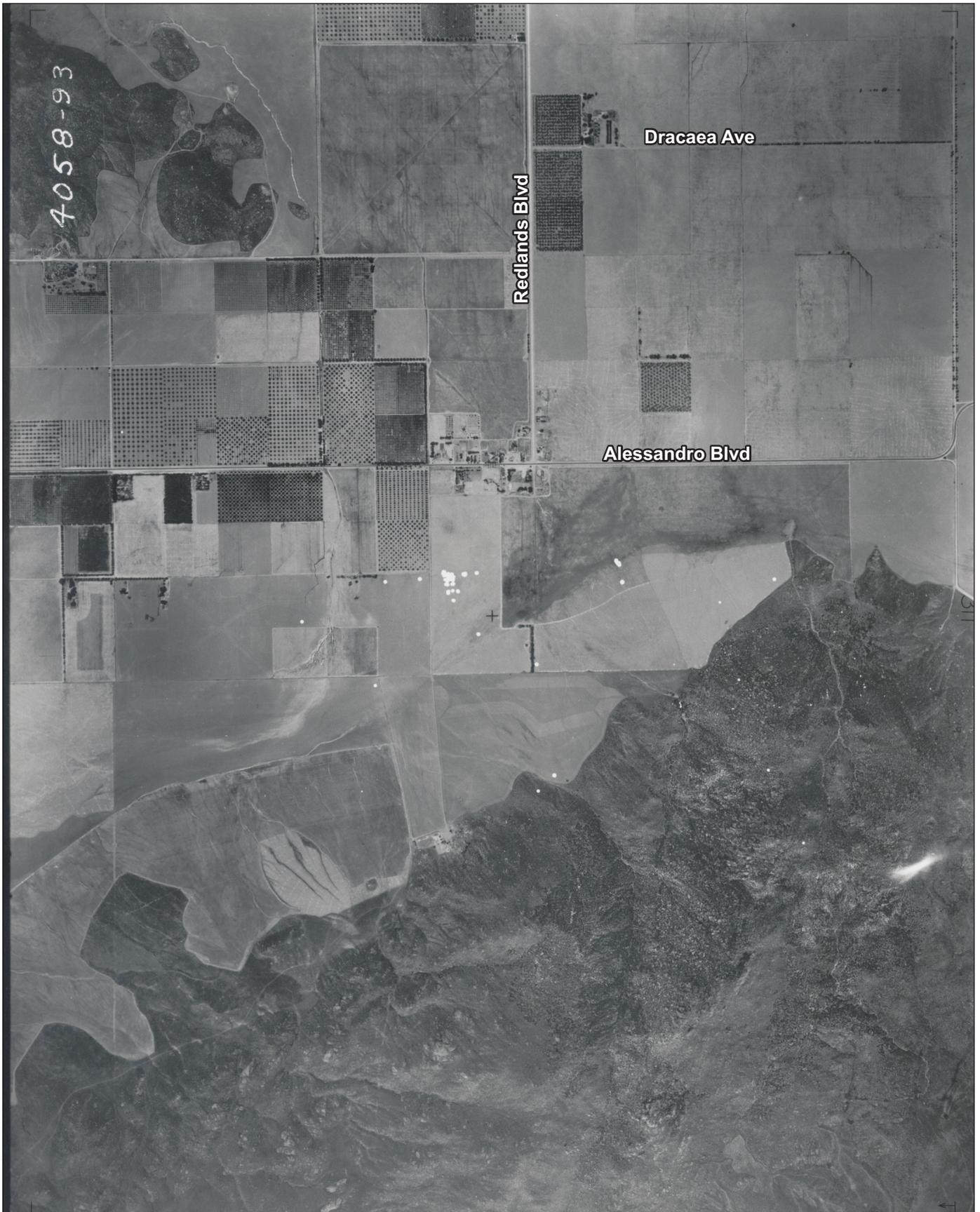


Michael Brandman Associates

26100025 • 04/2012 | 4c\_1932\_SE.cdr

## Exhibit 4c 1932 Aerial - Southeast Portion of Specific Plan

HIGHLAND FAIRVIEW OPERATING COMPANY • WORLD LOGISTICS CENTER SPECIFIC PLAN  
PHASE I AND PHASE II CULTURAL RESOURCES ASSESSMENT



Source: Fairchild Aerial Photography Collection.



Michael Brandman Associates

26100025 • 04/2012 | 5a\_1936\_SW.cdr

## Exhibit 5a 1936 Aerial - Southwest Portion of Specific Plan

HIGHLAND FAIRVIEW OPERATING COMPANY • WORLD LOGISTICS CENTER SPECIFIC PLAN  
PHASE I AND PHASE II CULTURAL RESOURCES ASSESSMENT



Source: Fairchild Aerial Photography Collection.



Michael Brandman Associates

26100025 • 04/2012 | 5b\_1936\_E.cdr

## Exhibit 5b 1936 Aerial - Eastern Portion of Specific Plan

HIGHLAND FAIRVIEW OPERATING COMPANY • WORLD LOGISTICS CENTER SPECIFIC PLAN  
PHASE I AND PHASE II CULTURAL RESOURCES ASSESSMENT

A large historic era farm can be seen near the southern margin: this has been replaced with a SDGE gas compression station. Both CA-RIV-4201 and CA-RIV-4210 are clearly visible and much of their hay and grass too has been cut. The absence of corrals at these sites (hay can be stored in the open if covered and hay barns aren't always needed) suggest that the cut grasses were being baled and sold elsewhere, possibly in Sunnymead.

Images from the end of December 1946 and early January 1947 are found in Exhibit 6a and Exhibit 6b. Exhibit 6a, 1946-7 Aerial - Southwest Portion of Specific Plan, shows the southwest portions with the town of Moreno exhibiting a few more structures. 10-acre parcels north of Alessandro Blvd were surrounded by a small ditch for water and flood control, fencing and roads: these can be seen in this photograph. Redlands Blvd was paved, but the remainder of roads were not except for Alessandro Blvd. This image shows that most of the land in this portion of the SP had been plowed repeatedly except for lands located at the toe of Mt. Russell, which is covered in Riversidean sage scrub vegetation. Exhibit 6b, 1946-7 - Southeast Portion of Specific Plan, shows much of the southeast portion of the SP including farms at CA-RIV-4210 and CA-RIV-4201. Hay storage may have been taking place at the former site because a large open barn or flat-roofed tractor shed can be seen. The farmhouse is in the lower southwest portion of the site and the remaining buildings spread to the north. The deep color surrounding the single building at CA-RIV-4201 may be due to extensive watering. The paved Gilman Springs Road had been built probably just after World War II and as a result Virginia Street was little used.

In the 1958 and 1960 periods, the historical development of farms in the area had matured and many of the parcels that supported citrus in 1932 had been converted to grains and pasture. SR60 had been put through the Badlands by this time and forms the primary developmental change. Greyvillea Street was removed to allow for the passage of a 2-lane both directions freeway plus a few structure complexes in the right of way. Overpasses were construction: these are now being replaced (2011-2012). The large citrus orchard on the old Kerr Ranch at the corner of Redlands Blvd and Greyvillea in the 1930's had been demolished and replaced by a horse farm (Dice 2006) facing the SR60 freeway. The north portion of the SP can be observed on a February 1958 aerial (Exhibit 7a, 1958 Aerial - North Portion of Specific Plan), whereas the southern portion can be observed in a 1960 aerial (Exhibit 7b, 1960 Aerial - South Portion of Specific Plan).



Source: Fairchild Aerial Photography Collection.



Michael Brandman Associates

26100025 • 04/2012 | 6a\_1946-7\_SW.cdr

## Exhibit 6a 1946-7 Aerial - Southwest Portion of Specific Plan

HIGHLAND FAIRVIEW OPERATING COMPANY • WORLD LOGISTICS CENTER SPECIFIC PLAN  
PHASE I AND PHASE II CULTURAL RESOURCES ASSESSMENT



Source: Fairchild Aerial Photography Collection.



Michael Brandman Associates

26100025 • 04/2012 | 6b\_1946-7\_SE.cdr

## Exhibit 6b 1946-7 Aerial - Southeast Portion of Specific Plan

HIGHLAND FAIRVIEW OPERATING COMPANY • WORLD LOGISTICS CENTER SPECIFIC PLAN  
PHASE I AND PHASE II CULTURAL RESOURCES ASSESSMENT



Source: Fairchild Aerial Photography Collection.



Michael Brandman Associates

26100025 • 04/2012 | 7a\_1958\_N.cdr

## Exhibit 7a 1958 Aerial - North Portion of Specific Plan

HIGHLAND FAIRVIEW OPERATING COMPANY • WORLD LOGISTICS CENTER SPECIFIC PLAN  
PHASE I AND PHASE II CULTURAL RESOURCES ASSESSMENT



Source: Fairchild Aerial Photography Collection.



Michael Brandman Associates

26100025 • 04/2012 | 7b\_1960\_S.cdr

## Exhibit 7b 1960 Aerial - South Portion of Specific Plan

HIGHLAND FAIRVIEW OPERATING COMPANY • WORLD LOGISTICS CENTER SPECIFIC PLAN  
PHASE I AND PHASE II CULTURAL RESOURCES ASSESSMENT

---

## 4.6 - Paleontological Records Search Results

---

A series of paleontological records checks were requested by MBA's project paleontologist Dr. Kenneth J. Lord between 2005 and 2008, and responses to our inquiries were received from Mr. Eric Scott of the Paleontological Division of the San Bernardino County Museum. Each response has been reproduced in Appendix B.

Mr. Scott's paleontological review showed that the whole of the SP and region, in an area south of SR-60, north of the toe of Mt. Russell to a point toward Gilman Springs Road, rests entirely on exposures of Holocene recent alluvium. This alluvium has low potential for fossil deposits to be uncovered during grading. However, the Holocene alluvium rests upon a veneer of Older Pleistocene alluvium and San Timoteo Formation deposits, both of which are highly sensitive for fossil resources.

In 2004, LSA conducted monitoring during geotechnical testing within portions of what was to become the World Logistics Center Specific Plan. These trenches were placed south of the Corporate Park Project between Redlands Boulevard and Theodore Street. Both trenches were excavated to a depth of 25 feet. A fossil rib bone was found in Trench 1 at a depth of 17 feet. The specimen compared well with *Bison* sp. (LSA 2004). This finding is consistent with other finds in the region and is indicative of Pleistocene age sediments within the Specific Plan area.

Research on the subject of potential impacts to buried paleontological resources was recently undertaken by MBA staff during construction monitoring of the Highland Fairview Corporate Park project (MBA 2011), which was built by the Proponent. Deep excavations showed that the Holocene/Pleistocene alluvium is likely to be quite thick and at least 20 feet of this existed in the Highland Fairview Corporate Park project site. We believe that a similar condition exists elsewhere in the SP and that the upper 10 feet of soil (at a minimum) has low sensitivity for potential impacts to paleontologic resources. Impacts to sensitive paleontologic resources moves to "moderate" once a depth below grade of 10 feet is reached. This may vary across the project site, since obviously prehistoric archaeological remains were found 21 feet below grade during archaeological monitoring at site CA-RIV-6200. This particular resource is near the northeast corner of the project site.

## SECTION 5: PHASE 1 SURVEY AND PHASE 2 TESTING RESULTS

### 5.1 - Phase 1 Survey

MBA Senior Archaeologist Michael Dice, M.A. guided all fieldwork associated with the many cultural resource surveys in the SP. MBA staff archaeologists Peter Messick, Marnie Kay, Alynne Loupe, Leleua Loupe, Sarah Williams, Greg Chatman, Erin Shepard, Jennifer M. Sanka, James Keasling, Arabesque Said, Eric Landis and Audrey Podratz surveyed portions of the project site at various times between late 2005 and April of 2012. In all cases, the project area was surveyed using a block-transect technique, with 10 to 15 meter spacing. The vast majority of the project area exhibited barren, tilled earth with 100 percent ground visibility. Certain portions of the SP could not be examined with good intensity because they were covered in tall and dense weedy vegetation with no ground surface visibility, and in a few places the lands were too steep to walk safely.

#### 5.1.1 - Observed Prehistoric-era Cultural Resource Sites

Resources listed in bold/grey in Table 1 and Table 2 (column “Site Name” and column “Location Comments”), were previously recorded resources the Phase 1 survey teams were able to observe. Most of these were located on the lower slopes of Mt. Russell in the northern portion of Section 13 T3S/R3W (see Appendix F, Confidential Site Locations). Prehistoric bedrock milling slick sites CA-RIV-2775, CA-RIV-2776, CA-RIV-2777 and CA-RIV-2993 were poorly defined when they were first observed. After considerable review, the plotted locations of the milling slick features that defined the first three sites showed that they were located very close together: so close that there were legitimately combined into single prehistoric resource now known as CA-RIV-8007. Site CA-RIV-2993 was too far away to include in the single site. One additional previously unrecorded prehistoric resource was detected during survey on Mt. Russell: CA-RIV-8006. Finally, CA-RIV-6200 was identified by archaeologists during construction of the EMWD tunnel near Gilman Springs Road in the 1990’s. It is unlikely that this site will be directly impacted by development in the SP due to its depth.

#### 5.1.2 - Observed Historic-era Cultural Resource Sites

Site CA-RIV-4201 and CA-RIV-4210 are located on lands inside the SP near Alessandro and Virginia streets. These two sites were Phase 2 tested for significance in January 2012. Site CA-RIV-5862 is located on MWD property near the intersection of Gilman Springs and SR60 and was evaluated for significance during surveys in January 2012.

An unrecorded historic-era structure was observed in historic aerial photographs and is located in Assessor’s Parcel Number (APN) 478-220-009. One of the structures on this parcel was built in 1900, and appears to be one of the oldest remaining structures in the former community of Moreno. Once access to this parcel is gained by the Proponent, the structure should be recorded onto DPR523

forms and evaluated for significance by a qualified architectural historian before the Draft EIR is submitted to the City for public review.

### 5.1.3 - Isolated Finds

Two isolated prehistoric artifacts were identified during the surveys. Isolate #1 was detected in a plowed field, to the southeast of the intersection of Alessandro Boulevard and Theodore Street, east of Theodore Street. This resource consists of a single grey meta-volcanic core, measuring 15 cm (Length) x10 cm (Width). Some portions of the core exhibited heavy patination, and several plow scars were observed. Isolate #2 was detected to the east of Davis Road, which is the southern extension of Theodore Street. This resource consists of a single quartz tertiary flake with 4 dorsal scars, and it retains an orange inclusion. DPR523 forms will be filled out for these resources. Because they are isolates, no additional mitigative efforts are required.

---

## 5.2 - Phase 2 Testing Results

---

### 5.2.1 - Prehistoric Resources

Nine individual prehistoric sites at the toe of Mt. Russell were Phase 2 tested for historic significance in the summer of 2006. These include CA-RIV-610, CA-RIV-860, CA-RIV-3238, CA-RIV-3343, CA-RIV-3344, CA-RIV-3345, the northern portion of site CA-RIV-3346, CA-RIV-8006, and CA-RIV-8007. Site CA-RIV-2995, originally thought to lie adjacent to the margin of the SP and authorized by the Proponent for Phase 2 testing, was re-plotted and found to be located beyond the SP footprint. CA-RIV-2775, CA-RIV-2776, and CA-RIV-2777 were merged to form one large site (CA-RIV-8007) during the Phase 2 test fieldwork. Two historic archaeological sites were tested in January 2012, CA-RIV-4201 and CA-RIV-4210. Both were previously identified by archaeologists in the 1980's.

Subsurface testing consisted of the use of 50cm diameter shovel test pits excavated near the Features in each site and the soil screened through 0.25" hardware cloth. Any artifacts (stone tools, stone flakes, pottery, bone, etc) in the test pits would have been captured through this procedure would have been examined, photographed, analyzed in the field. They were to be returned to the pit when the pit was backfilled. Despite the fact that over 100 test pits were excavated, no buried artifacts or hidden buried features were detected in any site except the northern portion of CA-RIV-3346 (the southern half of this site was scanned by the crew for surface artifacts but no test pits were placed in it). The crew also scanned the perimeter of each site for concentrations of artifacts and/or isolated artifacts before digging the pits.

We believed that the nine prehistoric sites should be considered part of the unofficial Wolfskill Ranch North Complex. This Complex is discussed in the City General Plan but is not an officially recognized prehistoric district.

The following cultural resource descriptions are taken and edited from lines P3 and A4 of the individual DPR 523 forms created for this study. The DPR forms are in Appendix E, Confidential Department of Parks and Recreation (DPR) 523 Forms. Conclusions regarding the potential significance of each resource are made herein. Section 6, Summary and Recommendations, of this report delineates our general conclusions as well as appropriate mitigation measures.

### **CA-RIV-610**

This prehistoric resource exhibits sets of milling features on four granitic outcrops labeled Feature A, B, C, and D. The granite blocks are large and the milling surfaces are difficult to see. Feature A and B are located near the eastern edge of the resource and exhibit a single slick apiece. Feature C is located near the center-west of the resource and exhibits one slick and three saucer mortars. Feature D is located near the western edge of the resource and exhibits two milling slicks. The granite blocks exhibited a greenish lichen, which leads to deterioration of the granite surfaces.

Four standard shovel test pits were placed around each of the 4 Features for a total of 16 to determine if any buried resources were noted in the area. No buried features were noted, nor were any artifacts observed. The resource was mapped, shovel tests plotted, and located using a GPS device, photographed, and the test pits were refilled and smoothed.

According to CCR 15064.5, any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4852) including the following: *4. Has yielded, or may be likely to yield, information important in prehistory or history.*

In our view, the potential information available for research purposes for CA-RIV-610 has been exhausted through recordation and testing. Because there did not appear to be any additional buried cultural resources that may yield information important to California prehistory at this site, we believe that the Phase 2 test demonstrates that the site is limited in its ability to fulfill Criterion 4. Our analysis suggests that the site should not be considered a historical resource under CEQA Guidelines. We do recognize that it could be considered a unique resource, but we do not consider the site eligible for listing on the California Register. If additional information is brought forward to the lead agency per guidelines in CCR 15064.5, the City may choose to proclaim this cultural resource significant following General Plan Policy 7.6.1 in response to Objective 7.6.

It is possible that CA-RIV-610 will be directly impacted by construction and although we find that the site is not significant, the location of all features on solid bedrock suggests that it will be avoided.

However, development within the SP may bring an increase in visitations and possible inadvertent and indirect damage to this resource.

### **CA-RIV-860**

This prehistoric resource exhibits seven sets of milling features on granitic outcrops located along the sides of a granite sentinel. Each granite block exhibiting a milling surface as deemed a Feature. The Features are large and the milling surface difficult to see. Feature A and B are located near the southern end of the resource: Feature A exhibits three saucer mortars and Feature B exhibits two slicks. Feature C is located near the center-east of the resource and exhibits two milling slicks. Feature D is located near the center of the resource and exhibits two milling slicks. Feature E and G are located at the near the north end of the resource: Feature E exhibits two slicks, while Feature G exhibits three mortars. Feature F was located during a final site check after fieldwork; it exhibited one slick.

A total of 32 standard shovel test pits were placed around each of the seven Features to determine if any buried cultural resources were noted near the Features. Extremely thin or non-existent soil was observed near some of these Features, so areas of the site believed to contain deep soil were also tested. No buried features were noted, nor were any artifacts observed. The resource was mapped, shovel tests plotted and located using a GPS device, photographed, and the test pits were refilled and smoothed.

According to CCR 15064.5, any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4852) including the following: *4. Has yielded, or may be likely to yield, information important in prehistory or history.*

In our view, the potential information available for research purposes for CA-RIV-860 has been exhausted through recordation and testing. Because there did not appear to be any additional buried cultural resources that may yield information important to California prehistory at this site, we believe that the Phase 2 test demonstrates that the site is limited in its ability to fulfill Criterion 4. Our analysis suggests that the site should not be considered a historical resource under CEQA Guidelines. We do recognize that it could be considered a unique resource, but we do not consider the site eligible for listing on the California Register. If additional information is brought forward to the lead agency per guidelines in CCR 15064.5, the City may choose to proclaim this cultural resource significant following General Plan Policy 7.6.1 in response to Objective 7.6.

It is possible that CA-RIV-860 will be directly impacted by construction and although we find that the site is not significant, the location of all features on solid bedrock suggests that it will be avoided. However, development within the SP may bring an increase in visitations and possible inadvertent and indirect damage to this resource.

### **CA-RIV-3238**

This prehistoric resource exhibits one milling slick on a single exposed granitic outcrop. The slick and outcrop are of granite and are in good condition. Six shovel test pits were placed around the outcrop to determine if any buried resources were noted in the area. No buried features were noted, nor were any artifacts observed. The resource was mapped, shovel tests plotted and located using a GPS device, photographed, and the test pits were refilled and smoothed.

According to CCR 15064.5, any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4852) including the following: *4. Has yielded, or may be likely to yield, information important in prehistory or history.*

In our view, the potential information available for research purposes for CA-RIV-3238 has been exhausted through recordation and testing. Because there did not appear to be any additional buried cultural resources that may yield information important to California prehistory at this site, we believe that the Phase 2 test demonstrates that the site is limited in its ability to fulfill Criterion 4. Our analysis suggests that the site should not be considered a historical resource under CEQA Guidelines. We do recognize that it could be considered a unique resource, but we do not consider the site eligible for listing on the California Register. If additional information is brought forward to the lead agency per guidelines in CCR 15064.5, the City may choose to proclaim this cultural resource significant following General Plan Policy 7.6.1 in response to Objective 7.6.

It is possible that CA-RIV-3238 will be directly impacted by construction and although we find that the site is not significant, the location of all features on solid bedrock suggests that it will be avoided. However, development within the SP may bring an increase in visitations and possible inadvertent and indirect damage to this resource.

### **CA-RIV-3343**

This prehistoric resource exhibits one milling slick on a single exposed granitic outcrop. The slick and outcrop are of granite and are in good condition. Six standard shovel test pits were placed around the outcrop to determine if any buried resources were noted in the area. No buried features were

noted, nor were any artifacts observed. The resource was mapped, shovel tests plotted and located using a GPS device, photographed, and the test pits were refilled and smoothed.

According to CCR 15064.5, any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4852) including the following: *4. Has yielded, or may be likely to yield, information important in prehistory or history.*

In our view, the potential information available for research purposes for CA-RIV-3343 has been exhausted through recordation and testing. Because there did not appear to be any additional buried cultural resources that may yield information important to California prehistory at this site, we believe that the Phase 2 test demonstrates that the site is limited in its ability to fulfill Criterion 4. Our analysis suggests that the site should not be considered a historical resource under CEQA Guidelines. We do recognize that it could be considered a unique resource, but we do not consider the site eligible for listing on the California Register. If additional information is brought forward to the lead agency per guidelines in CCR 15064.5, the City may choose to proclaim this cultural resource significant following General Plan Policy 7.6.1 in response to Objective 7.6.

It is possible that CA-RIV-3343 will be directly impacted by construction and although we find that the site is not significant, the location of all features on solid bedrock suggests that it will be avoided. However, development within the SP may bring an increase in visitations and possible inadvertent and indirect damage to this resource.

#### **CA-RIV-3344**

This prehistoric resource exhibits one milling slick on a single exposed granitic outcrop. The slick and outcrop are of granite and are in good condition. Six standard shovel test pits were placed around the outcrop to determine if any buried resources were noted in the area. No buried features were noted, nor were any artifacts observed. The resource was mapped, shovel tests plotted and located using a GPS device, photographed, and the test pits were refilled and smoothed.

According to CCR 15064.5, any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria

for listing on the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4852) including the following: 4. *Has yielded, or may be likely to yield, information important in prehistory or history.*

In our view, the potential information available for research purposes for CA-RIV-3344 has been exhausted through recordation and testing. Because there did not appear to be any additional buried cultural resources that may yield information important to California prehistory at this site, we believe that the Phase 2 test demonstrates that the site is limited in its ability to fulfill Criterion 4. Our analysis suggests that the site should not be considered a historical resource under CEQA Guidelines. We do recognize that it could be considered a unique resource, but we do not consider the site eligible for listing on the California Register. If additional information is brought forward to the lead agency per guidelines in CCR 15064.5, the City may choose to proclaim this cultural resource significant following General Plan Policy 7.6.1 in response to Objective 7.6.

It is possible that CA-RIV-3344 will be directly impacted by construction and although we find that the site is not significant, the location of all features on solid bedrock suggests that it will be avoided. However, development within the SP may bring an increase in visitations and possible inadvertent and indirect damage to this resource.

#### **CA-RIV-3345**

This prehistoric resource exhibits three milling surfaces on two exposed granitic outcrop Features. Feature A is located at the north end of the resource and exhibits a single large milling slick in good condition. Feature B is located at the southern end, which was newly discovered during our Phase 1 survey, and lies amongst a circle of dirt roads. Two poorly preserved milling surfaces are located on the Feature B bedrock outcrop.

Four standard shovel test pits were placed around each Feature to determine if any buried resources could be found. No buried features were noted, nor were any artifacts observed. The resource was mapped, shovel tests plotted and located using a GPS device, photographed, and the test pits were refilled and smoothed.

According to CCR 15064.5, any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4852) including the following: 4. *Has yielded, or may be likely to yield, information important in prehistory or history.*

In our view, the potential information available for research purposes for CA-RIV-3345 has been exhausted through recordation and testing. Because there did not appear to be any additional buried cultural resources that may yield information important to California prehistory at this site, we believe that the Phase 2 test demonstrates that the site is limited in its ability to fulfill Criterion 4. Our analysis suggests that the site should not be considered a historical resource under CEQA Guidelines. We do recognize that it could be considered a unique resource, but we do not consider the site eligible for listing on the California Register. If additional information is brought forward to the lead agency per guidelines in CCR 15064.5, the City may choose to proclaim this cultural resource significant following General Plan Policy 7.6.1 in response to Objective 7.6.

It is possible that CA-RIV-3345 will be directly impacted by construction and although we find that the site is not significant, the location of all features on solid bedrock suggests that it will be avoided. However, development within the SP may bring an increase in visitations and possible inadvertent and indirect damage to this resource.

### **CA-RIV-3346**

Prehistoric site CA-RIV-3346 was originally recorded as a large resource exhibiting many individual milling slick surfaces and mortars. Numerous artifacts were noted, as was soil of a type suggestive of a midden. The resource extends south and uphill along a small canyon and it was believed that the site might represent a village or extensive encampment. It was considered significant when originally recorded by previous archaeologists. MBA staff rerecorded the resource based on observation made at the time of testing so that all aspects of the site could be delineated on a map, but subsurface shovel testing was limited to the northern portion of the site only.

The northern half of this resource exhibits 18 exposed granitic outcrops (Features). There are a total of 14 milling surfaces, seven conical mortars, one basin milling feature and five saucer mortars in the resource. All are moderately exfoliated and range from good to poor condition. Some additional milling surfaces may be buried in eroding soil. Midden-like soil noted on earlier DPR form sets was not found, but it is possible that this midden exists but has been picked clean of surface artifacts by pothunters. The site is bisected by a drainage and many actively used dirt bike tracks. All outcrops are moderately exfoliated. It is possible that much of the resources surface artifacts were removed by pothunters as only five stone artifacts were noted during survey and testing.

Seventy-two shovel test pits were placed around the granite outcrops in the northern half of the site to determine if any buried resources could be observed. Several excavated levels in several of these pits exhibiting artifacts were noted. These were mostly ground stone fragments that had been cracked by fire, and five flaked stone artifacts were observed. These artifacts were examined and replaced in the shovel test pits from whence they came. The resource was mapped, shovel tests plotted and located using a GPS device, photographed, and the test pits were refilled and smoothed.

According to CCR 15064.5, any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4852) including the following: 4. Has yielded, or may be likely to yield, information important in prehistory or history.

In our view, the potential information available for research purposes at CA-RIV-3346 does exist, and the southern half of this site has yet to be examined through subsurface testing. We conclude that there does appear to be additional buried cultural resource elements that may be able to yield additional information important to California prehistory. We therefore confirm that the Phase 2 test demonstrates the site is not limited in its ability to fulfill Criterion 4 as noted above and therefore must be considered a historical resource under CEQA Guidelines.

It is possible that CA-RIV-3346 will be directly impacted by construction and although we find that the site is indeed a significant cultural resource, the location of all milling slick features on solid bedrock suggests that it can be avoided. However, development within the SP may bring an increase in visitations and possible inadvertent and indirect damage to this resource. Should it be determined that the site must be directly impacted by construction, Phase 3 data collection on the whole of this site must take place.

### **CA-RIV-8006**

This prehistoric resource consists of a single bedrock outcrop (Feature 1) exhibiting four saucer mortars and one milling slick. Feature 1 is in fair condition and is a coarse granitic outcrop 4.40 by 2.00 meters in size. Each milling surface is about 102cm off the ground. Mortar A measures 16 by 13cm in size and is 3.5cm deep. Mortar B measures 18 by 16cm in size and is 0.5cm deep. Mortar C measures 18 by 18cm in size and is 3cm deep. Mortar D measures 23 by 18cm in size and is 4cm deep. Milling slick E measures 24 by 18cm in size. All are moderately exfoliated. No artifacts were detected within the site boundary.

One shovel test of this site took place. Four standard shovel test pits (STPs) were placed around Feature 1 to determine if any buried resources were noted near the outcrop. No buried features were noted, nor were any artifacts observed. The resource was mapped, shovel tests plotted and located using a GPS device, photographed, and the test pits were refilled and smoothed.

According to CCR 15064.5, any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural

annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4852) including the following: *4. Has yielded, or may be likely to yield, information important in prehistory or history.*

In our view, the potential information available for research purposes for CA-RIV-8006 has been exhausted through recordation and testing. Because there did not appear to be any additional buried cultural resources that may yield information important to California prehistory at this site, we believe that the Phase 2 test demonstrates that the site is limited in its ability to fulfill Criterion 4. Our analysis suggests that the site should not be considered a historical resource under CEQA Guidelines. We do recognize that it could be considered a unique resource, but we do not consider the site eligible for listing on the California Register. If additional information is brought forward to the lead agency per guidelines in CCR 15064.5, the City may choose to proclaim this cultural resource significant following General Plan Policy 7.6.1 in response to Objective 7.6.

It is possible that CA-RIV-8006 will be directly impacted by construction and although we find that the site is not significant, the location of all features on solid bedrock suggests that it will be avoided. However, development within the SP may bring an increase in visitations and possible inadvertent and indirect damage to this resource.

### **CA-RIV-8007**

This prehistoric resource was previously known as CA-RIV-2775, CA-RIV-2776, and CA-RIV-2777. With the addition of new feature elements discovered during the survey and GPS rendering of the original site locations, it became clear that the three original sites, which were all within an 80-meter radius of each other, should be combined into a single site with the newly discovered site elements added. CA-RIV-8007 consists of 12 bedrock outcrops with a total of 29 milling surfaces. During the Phase 2 test, at least 4 shovel test pits were placed around each of the 12 outcrops.

Locus A exhibits 7 exposed granitic outcrops with a total of 11 milling slicks of varying sizes. Each of the bedrock outcrops in Locus A are moderately exfoliated and range from good to fair condition. Locus B contains all milling surfaces associated with CA-RIV-2775, CA-RIV-2776, and CA-RIV-2777 and therefore exhibits the following features:

- **Former site RIV-2775** exhibits 1 milling feature on a large granitic outcrop.
- **Former site RIV-2776** exhibits 7 milling slicks on a large granitic outcrop adjacent to a dirt road.
- **Former site RIV-2777** exhibits 3 different boulder outcrops. Outcrop A is located at the north end and consists of a decomposing granitic 'sentinel' with a single milling slick originally

recorded (now lost). Outcrop B is located near the ground with five milling surfaces observed. Outcrop C is located at the south end of the resource and is the most clearly visible of the group. The outcrop exhibits five milling slicks.

Fifty-two shovel test pits were excavated within this site to identify buried cultural features and artifacts. No buried features were noted, nor were any artifacts observed. The resource was mapped, shovel tests plotted and located using a GPS device, photographed, and the test pits were refilled and smoothed.

According to CCR 15064.5, any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4852) including the following: *4. Has yielded, or may be likely to yield, information important in prehistory or history.*

In our view, the potential information available for research purposes for CA-RIV-8007 has been exhausted through recordation and testing. Because there did not appear to be any additional buried cultural resources that may yield information important to California prehistory at this site, we believe that the Phase 2 test demonstrates that the site is limited in its ability to fulfill Criterion 4. Our analysis suggests that the site should not be considered a historical resource under CEQA Guidelines. We do recognize that it could be considered a unique resource, but we do not consider the site eligible for listing on the California Register. If additional information is brought forward to the lead agency per guidelines in CCR 15064.5, the City may choose to proclaim this cultural resource significant following General Plan Policy 7.6.1 in response to Objective 7.6.

It is possible that CA-RIV-8007 will be directly impacted by construction and although we find that the site is not significant, the location of all features on solid bedrock suggests that it will be avoided. However, development within the SP may bring an increase in visitations and possible inadvertent and indirect damage to this resource.

## **5.2.2 - Historic-era Resources**

### **CA-RIV-4201**

Aerial photos show this historic-era resource exhibited residential buildings, outbuildings, and linear landscaping with large peppertrees. The site was split by a dirt road used by local drivers until before 1947, when local travel north of Alessandro Blvd and east of Sunnymead was augmented by the construction of Gilman Springs Road (see Exhibit 5b and Exhibit 6b). The site was first recorded in

1990 by Greenwood and Associates (Schmidt and Romani 1990) and featured an exposed concrete pad, scattered historic and animal bone artifacts, a peppertree, and a rubble mound.

Various modern images found on GoogleEarth (magnified) showed that the rubble scatter shown in the original DPR523 site form had been pushed around presumably by farming equipment, but in 2002 the debris scatter measured 100 feet (E-W) by 50 feet (N-S) in size. The amount of rubble on the property was extensive in 1990, but by 2012 most of this had been lost and likely plowed/scattered into the surrounding soil. Presumably used for farming, this small structure complex was extant at least between 1932 and 1937 according to the aerial photographs obtained for the purposes of our SP analysis. A 1947 image shows the farmhouse and outbuildings were mostly gone and the area was unplowed compared to the clearly plowed pasture/dryland crops grown nearby. In 1967 ([www.historicaerials.com](http://www.historicaerials.com)), the site exhibited a series of live peppertrees extending west from the unpaved Virginia Street approximately 400 feet (E-W) and were 80 feet wide (N-S). A few small outbuildings were noted at that time but no primary structures.

Phase 2 testing was contingent on the removal of plowed topsoil in a potentially highly productive sample area such that intact subsurface sediments would be exposed to view. Before work commenced, the area was inspected for the presence of rubble and artifact densities. Once done, a sample rectangle of ground roughly 50x100 feet in size was placed on the site in a diagonal fashion so that the long edge of the rectangle crossed from the southern edge of the peppertrees and across the abandoned W-E dirt road that could be seen in the 1936 aerial photo (see Exhibit 5b and Exhibit 6b). Soils were removed with a rubber tired wheel loader equipped with a multi-purpose front bucket that could bulk soil out plus strip topsoil off in thin levels. Once approximately 2 feet of plowed earth was removed from the test area, the ground was cleaned to reveal the unplowed surface.

Work results showed that nearly all components of the site had been removed during the demolition process and that no buried features remained. The quantity of historic artifacts remaining on the property was slight: far less than that indicated in the 1991 site record. Although a grassy rubble mound did exist before earthmoving took place, this lacked substantive artifacts in any density that might have suggested buried intact resources. The foundation observed in 1990 when the site was first recorded could not be found. Buried remnants of a main irrigation standpipe was uncovered at about 488847mE/3753919mN, but no structures, wells, outbuildings or the roots of peppertrees were observed.

According to CCR 15064.5, any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14

CCR, Section 4852) including the following: 4. *Has yielded, or may be likely to yield, information important in prehistory or history.*

In our view, the potential information available for research purposes for CA-RIV-4201 has been exhausted through recordation and testing. Because there did not appear to be any additional buried cultural resources that may yield information important to California history at this site, we believe that the Phase 2 test demonstrates that the site is limited in its ability to fulfill Criterion 4. Our analysis suggests that the site should not be considered a historical resource under CEQA Guidelines. We do recognize that it could be considered a unique resource, but we do not consider the site eligible for listing on the California Register. If additional information is brought forward to the lead agency per guidelines in CCR 15064.5, the City may choose to proclaim this cultural resource significant following General Plan Policy 7.6.1 in response to Objective 7.6.

Given the current design of the Specific Plan, it is likely that CA-RIV-4201 will be directly impacted by construction. Because this site is considered a not significant historic-era site, no further archaeological mitigative efforts are required.

#### **CA-RIV-4210**

Aerial photos show that this historic farm complex exhibited residential buildings, outbuildings, a 15-foot frame and stucco “teepee,” driveways and landscaping (see Exhibit 4c, Exhibit 5b, and Exhibit 6b). The farming property appears to have been abandoned in the 1980’s but was extant at least between 1932 and 1978 according to aerial photographs obtained for the purposes of SP analysis. The site was first recorded in 1990 and at that time the structures had been demolished and an extensive scatter of debris remained. The sole remaining building, the “teepee” structure, was still standing.

Various modern images found on GoogleEarth’s historical database showed that the rubble scatters shown in the original DPR523 site form had been pushed around presumably by farming equipment, but in 1990 there were four debris scatters north of Alessandro Blvd and west of a slight wash depression that had been flattened by repeated plowing. The site was fully visible and measured 120 feet (N-S) by 80 feet (E-W) in size in that year. The amount of rubble on the property was extensive in 1990, but by 2012 most of this had been lost and likely plowed/scattered into the surrounding soil. Presumably used for farming, this small structure complex was extant before 1932 according to the aerial photographs obtained for the purposes of our SP analysis. In 1967 ([www.historicaerials.com](http://www.historicaerials.com)), the site exhibited a large farm complex with several outbuildings. A large open-walled structure near the former wash on the east side of the complex probably shielded hay from the sun. This structure is also plotted on the Sunnymead topographic map (1967).

Phase 2 testing was contingent on the removal of plowed topsoil in a potentially highly productive sample area such that intact subsurface sediments would be exposed to view. Before work commenced, the area was inspected for the presence of rubble and artifact densities. Once done, a

sample rectangle of ground roughly 100x50 feet in size was placed on the site with the long axis running N-S so that the long edge of the rectangle missed the teepee structure slightly. Soils were removed with a rubber tired wheel loader equipped with a multi-purpose front bucket that could bulk soil out plus strip topsoil off in thin levels. Once approximately 2 feet of plowed earth was removed from the test area, the ground was cleaned to reveal the unplowed surface.

Work results showed that nearly all original components of the site had been removed during the demolition process. Remnants of the farmhouse were there, but had been reduced to the location of the foundation cut below grade. This had been filled in with crushed brick, concrete and burned structural rubble: no time-sensitive materials had been observed. A vault, the walls of which had been demolished away, was found a few dozen feet north of the farmhouse plot. This likely held water valves underground. A 6" sewer line ran north-south between the farmhouse and outbuildings and the street: remnants were detected during the scrape. A dump containing modern artifacts was located on the western side of the testing area. Overall, the quantity of historic artifacts remaining on the property was slight: far less than that indicated in the 1991 site record, and no historic glass or ceramics were observed in the scraped fill or in those site remnants located below the plow zone. The "teepee" is essentially unchanged from the original record and the pipes and concrete slabs lie near it but this feature has little to convey to the overall nature of the site itself. Based on interior construction, the teepee was a weakly built frame and stucco structure that we believe was used as a playhouse for the farm children. It serves no other apparent purpose and for some reason was never demolished. In sum, the remnants of this site have been removed such that little elements of the original site remain and it is unlikely that new discoveries will be made on this resource during construction that could change the significance of the property.

According to CCR 15064.5, any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4852) including the following: *4. Has yielded, or may be likely to yield, information important in prehistory or history.*

In our view, the potential information available for research purposes for CA-RIV-4210 has been exhausted through recordation and testing. Because there did not appear to be any additional buried cultural resources that may yield information important to California history at this site, we believe that the Phase 2 test demonstrates that the site is limited in its ability to fulfill Criterion 4. Our analysis suggests that the site should not be considered a historical resource under CEQA Guidelines. We do recognize that it could be considered a unique resource, but we do not consider the site eligible for listing on the California Register. If additional information is brought forward to the lead agency

per guidelines in CCR 15064.5, the City may choose to proclaim this cultural resource significant following General Plan Policy 7.6.1 in response to Objective 7.6.

It is likely that CA-RIV-4210 will be directly impacted by construction in the SP. Because this site is considered a not significant historic-era resource, no further archaeological mitigative efforts are required.

### **CA-RIV-5862**

At one time, this historic resource was a small farm on a piece of hilly property that was truncated by the SR-60 freeway construction (circa 1957). Available aerial photographs from Whittier were few for this area: the 1958 image shows a small roof and surrounding Eucalyptus and peppertree landscaping but the structure is not clear at high magnification. The [www.historicaerials.com](http://www.historicaerials.com) images (dated 1967 and 1978) both show the building to be very small: a two-room structure with a shed roof covering a small concrete slab porch. These photographs also show the footprint of a deep cistern, which at one time held water possibly brought onto the site from seeps in the hills to the north. The original site record form provided a drawing of the complex in 1990. Today most of the superstructure has collapsed and while the five large peppertrees and one Eucalyptus drawn on the DPR forms are still alive, the privy noted at the time of original recordation cannot be relocated.

Given the fact that the parcel is owned by the Metropolitan Water District (MWD), it is unlikely that CA-RIV-5862 will be directly impacted by construction in the SP. Development within the project site may bring an increase in visitations and possible inadvertent and indirect damage to this resource. We recommend that once the portions of the SP nearest this site are programmed for development, the site should be revisited by a historic architectural specialist for review if and only if the structure complex must be destroyed by proposed development.

---

## SECTION 6: SUMMARY AND RECOMMENDATIONS

---

### 6.1 - Cultural Resource Summary

---

Review of all cultural resource factors in and near the SP suggests that the cultural resource sensitivity of the Specific Plan has a varying probability of containing significant buried cultural resources from both the prehistoric and historic era of City and Riverside County history. Certain locations in the project site do contain surface evidence of prehistoric cultural resources, especially near the slopes of Mount Russell. Other areas exhibit surface expressions of historic-era resources that have not yet been tested for significance. These facts suggest that the whole of the Specific Plan can be treated in different ways as part of a cultural resource mitigation monitoring program (CRMMP). A City-approved Project Archaeologist can devise and apply appropriate CRMMPs to the various projects in the Specific Plan as it is built out.

Although we believe that certain local Native American tribes consider some or all of this area to be sacred, no Native American tribe provided MBA staff with a list of traditional cultural properties that may be located in or near the SP. One tribe did send a representative to observe our testing of prehistoric sites in 2006, but did not report to us any specific issues or problems during the fieldwork.

#### 6.1.1 - Known Cultural Resources

Nine prehistoric cultural resources located near the southern edge of the project site were Phase 2 tested for significance: CA-RIV-610, CA-RIV-860, CA-RIV-3238, CA-RIV-3343, CA-RIV-3344, CA-RIV-3345, CA-RIV-3346, CA-RIV-8006, and CA-RIV-8007. Of these nine sites, only CA-RIV-3346 is considered a historical resource under CEQA Guidelines. Two historic archaeological sites were Phase 2 tested for significance: CA-RIV-4201 and CA-RIV-4210. Results showed that neither historic site should be considered a historical resource under CEQA Guidelines. Of the sites plotted in Confidential Appendix F, only CA-RIV-3346 is considered significant. If avoidance of this site is not possible then it must undergo Phase 3 data collection prior to construction. Two additional sites were not tested for significance: CA-RIV-2993 and CA-RIV-3347. If in the future it is shown that these latter two sites will be directly impacted by construction, they must be Phase 2 tested for significance.

---

### 6.2 - Cultural Resource Mitigation Recommendations

---

Impacts to buried and heretofore unknown cultural resources are considered varied project-wide. When specific projects are brought to the City for compliance review, a mitigation-monitoring program should be developed by a qualified Project Archaeologist that reflects perceived differences in sensitivity. The following table includes measures that should be considered applicable as new projects are considered by the City.

**Table 3: Recommended Cultural Resource Mitigation Measures**

Mitigation No.	Mitigation Text
CR-1	Should parcels that were not able to be surveyed during this analysis become available to the Proponent, the parcels should be surveyed by a qualified archaeologist and a Phase 1 Survey Addendum report submitted to the City for review.
CR-2	Should a cultural resource that is 45 or more years old, and not yet evaluated for significance, become available for direct analysis, the resource should be evaluated for significance following CEQA Guidelines. The resultant data must be prepared and published as an Addendum cultural resource report(s).
CR-3	Should a future project-level analysis show that cultural resource site CA-RIV-3346 will be directly or partially impacted by project-level construction, an Addendum cultural resource report must be prepared and include an analysis of the alternatives associated with mitigation for impacts to this resource following CEQA Guidelines Section 15126.4(b)(3). This information must be added to a project-level EIR before it is provided to the City for public review. We note that Phase 3 data recovery is a possible mitigative choice under CEQA Guidelines Section 15126.4(b)(3)(C).
CR-4	Should it be determined through a future project-level EIR analysis that prehistoric cultural resource sites CA-RIV-2993 and/or CA-RIV-3347 shall be directly impacted by future construction, these sites must be Phase 2 tested for significance.
CR-5	Prior to the issuance of any project-specific grading permit, a City-approved Project Archaeologist shall be retained by the Proponent. The project archaeologist should determine the sensitivity of the area to be constructed upon and devise an appropriate Cultural Resource Mitigation Monitoring Plan for the specific project based on the types of impacts that are planned. The Proponent must also retain a Project Archaeologist to supervise cultural resource mitigation monitoring during project-related earthmoving in all areas of the project, as needed, subject to certain constraints found in Mitigation Measure CR-6.
CR-6	<p>Project-related archaeological monitoring shall include the following constraints:</p> <ol style="list-style-type: none"> <li>1. Should monitoring be required in any project, construction-related earthmoving shall be monitored to a depth of ten (10) feet below grade by the Project Archaeologist or his/her designated representative;</li> <li>2. Once 50 percent of the earth to be moved in any one project has been examined by the Project Archaeologist, the Project Archaeologist may, at his or her discretion, terminate monitoring if and only if no buried cultural resources have been detected;</li> <li>3. If buried cultural resources are detected during monitoring, monitoring must continue until 100 percent of virgin earth within the study area has been disturbed and inspected by the Project Archaeologist or his/her designated representative.</li> <li>4. Grading shall cease in the area of a cultural artifact or potential cultural artifact as delineated by the Project Archaeologist or his/her designated representative. Grading should continue in other areas of the site while particular find are investigated; and</li> <li>5. If cultural artifacts are uncovered during grading, they shall be examined by the Project Archaeologist and assessed for significance, then all artifacts discovered must be curated in a qualified museum facility chosen by the City. The Project Archaeologist must issue a mitigation-monitoring report that describes the finds, and the report must accompany the artifacts as they are curated.</li> </ol>
CR-7	Should buried cultural resources be encountered during monitoring, the resources shall be Phase 2 tested and evaluated for significance following CEQA Guidelines prior to continuance of grading in the area. Any cultural resource determined to be significant must be Phase 3 data collected following guidelines issued by the State Office of Historic Preservation.
CR-8	The City of Moreno Valley shall designate representative Tribal Group(s) to observe project-related earthmoving. Qualified representatives of the Tribal Group(s) shall be granted access to the project site to monitor grading on terms reasonably acceptable to the Proponent.

### **6.2.1 - Accidental Discovery of Human Remains**

There is always the small possibility that ground-disturbing activities during construction may uncover previously unknown buried human remains. In the event of an accidental discovery or recognition of any human remains, California State Health and Safety Code § 7050.5 dictates that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to CEQA regulations and PRC § 5097.98.

### **6.2.2 - Accidental Discovery of Cultural Resources**

It is always possible that ground-disturbing activities during construction will uncover previously unknown, buried cultural resources. In the event that buried cultural resources are discovered during construction, operations shall stop in the immediate vicinity of the find and a qualified archaeologist shall be consulted to determine whether the resource requires further study. The qualified archeologist shall make recommendations to the Lead Agency on the measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with § 15064.5 of the CEQA Guidelines. Potentially significant cultural resources consist of, but are not limited to stone, bone, fossils, wood, or shell artifacts or features, including hearths, structural remains, or historic dumpsites. Any previously undiscovered resources found during construction within the project area should be recorded on appropriate Department of Parks and Recreation (DPR) forms and evaluated for significance in terms of CEQA criteria.

If the resources are determined to be unique historic resources as defined under § 15064.5 of the CEQA Guidelines, mitigation measures shall be identified by the monitor and recommended to the Lead Agency. Appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds.

No further grading shall occur in the area of the discovery until the Lead Agency approves the measures to protect these resources. Any archaeological artifacts recovered because of mitigation shall be donated to a qualified scientific institution approved by the Lead Agency where they would be afforded long-term preservation to allow future scientific study.

In addition, reasonable efforts to avoid, minimize, or mitigate adverse effects to the property will be taken and the State Historic Preservation Officer (SHPO) and Native American tribes with concerns about the property, as well as the Advisory Council on Historic Preservation (ACHP) will be notified within 48 hours in compliance with 36 CFR 800.13(b)(3).

---

## **6.3 - Paleontological Mitigation Recommendations**

---

A single paleontological resource was located on the project site, found during geotechnical trenching (LSA 2004). The results of the literature reviews showed that geologic units in the area should be

assigned a “moderate” paleontologic sensitivity because the project site rests on older Pleistocene alluvium and San Timoteo Formation rock units that may occur at depth. These deposits have a high potential to contain paleontological resources, but the veneer of Holocene sediments do not. Therefore, the project’s potential impact on paleontological resources is considered significant.

**Table 4: Recommended Paleontological Resource Mitigation Measures**

<b>Mitigation No.</b>	<b>Mitigation Text</b>
PR-1	<p>Prior to the issuance of a grading plan, a City-approved Project Paleontologist shall be retained to initiate and supervise paleontological mitigation-monitoring in all areas of the project, subject to certain constraints found below:</p> <ol style="list-style-type: none"><li data-bbox="396 411 1404 489">1. Once excavations reach ten (10) feet in depth, monitoring of excavation in areas identified as likely to contain paleontologic resources by a qualified paleontologic monitor or his/her representative must take place.</li><li data-bbox="396 495 1372 573">2. Paleontological monitors shall be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates.</li><li data-bbox="396 579 1404 636">3. Monitors must be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens, and,</li><li data-bbox="396 642 1404 709">4. Monitoring may be reduced if the potentially fossiliferous units described herein are not present, or, if present, are determined upon exposure and examination by qualified paleontologic personnel to have low potential to contain fossil resources.</li></ol>

**SECTION 7: CERTIFICATION**

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this archaeological report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: April 12, 2012

Signed:



Michael Dice, M.A.  
Michael Brandman Associates  
San Bernardino, CA

## SECTION 8: REFERENCES

- Bean, L.J. 1972. *Mukat's People, The Cahuilla Indians of Southern California*. University of California Press, Los Angeles
- Bean, L.J. 1978. Cahuilla. In R.F. Heizer, (ed.), *Handbook of North American Indians, Vol. 8: California: 575-587*. Washington, D.C.: Smithsonian Institution.
- Bean, L.J. and F.C. Shippek 1978. Luiseño. In R.F. Heizer, (ed.) *Handbook of North American Indians, Vol. 8: California*. Washington, D.C.: Smithsonian Institution.
- Chartkoff, J.L. and K.K. Chartkoff. 1984. *The Archaeology of California*. Stanford University Press, Menlo Park.
- Fagan, B. 2003. *Before California: An Archaeologist Looks at Our Earliest Inhabitants*. Alta Mira Press.
- Forbes, J. 1989. *Native Americans of California and Nevada*. Naturegraph Publishers Inc., Happy Camp.
- Garbarino, M.S. and R. F. Sasso. 1994. *Native American Heritage*. 3<sup>rd</sup> edition, Waveland Press. Prospect Heights.
- Gunther, J.D. 1984. *Riverside County, California Place Names*. Riverside: Rubidoux Printing Company.
- Harley, R.B. 1989. Did Mission San Gabriel have Two Asistencias? The Case of Rancho San Bernardino. *San Bernardino County Museum Association Quarterly* V36, No. 4.
- Heizer, R.F., ed. 1978. *Handbook of North American Indians, Vol. 8: California*. Washington, DC: Smithsonian Institution.
- Jennings, J.D. 1989. *Prehistory of North America*. Mayfield Publishing Co., Mountain View.
- Kroeber, A.L. 1925. *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin #78.
- Lech, S. 2004. *Along the Old Roads: A History of Riverside County*. Self-published, Riverside, California.
- LSA. 2004. *Paleontological Resource Assessment: Moreno Highlands Fault Investigation; City of Moreno Valley, Riverside County California*. Prepared for Leighton and Associates. On file, Michael Brandman Associates, Irvine, California.
- Lugo, D.J. de. C. 1950 (1877). *Life of a Rancher (Vida de un Ranchero)*. 1877 document translated in *Historical Society of Southern California Quarterly*, vol. 33. Sept. 1950
- Michael Brandman Associates (MBA). 2006. *Final Historical Resource Assessment for the Kerr Stock Farm on the Bel Lago Property City of Moreno Valley, Riverside County, California*. Submitted to the City of Moreno Valley. On file, Michael Brandman Associates, Irvine, CA.

- Michael Brandman Associates (MBA). 2011. Final Archaeological and Paleontological Monitoring Report for the Highland Fairview Corporate Park Project. Submitted to the City of Moreno Valley. On file, Michael Brandman Associates, Irvine, CA.
- Moratto, M.J. 1984. California Archaeology. San Diego: Academic Press.
- Moreno Valley (MV). 2006. Moreno Valley General Plan, Final Program EIR. Dated June 2006. Available on-line with the City of Moreno Valley.
- Oswalt, W.H. 1988. The Cahuilla: Gatherers of the Desert. in This Land Was Theirs, A Study of North American Indians, Mayfield Publishing Co., Mountain View.
- Sparkman, P.S. 1908. The Culture of the Luiseño Indians. American Archaeology and Ethnology, 8(4):187-234.
- Strong, W.D. 1979. Aboriginal Society in Southern California. Morongo Indian Reservation, Malki Museum Press, Banning.
- U.S. Department of Agriculture (USDA). 1971. Soil Survey, Western Riverside County Area, California. USDA, Washington D.C.
- Wallace, W.J. 1955. "A Suggested Chronology for Southern California Coastal Archaeology." Southwestern Journal of Anthropology 11(3):214-230.
- Warren, C.N. 1978. Cultural Tradition and Ecological Adaptation on the Southern California Coast. in Archaic Prehistory in the Western United States, C. Irwin-Williams, ed. Eastern New Mexico University Contributions in Anthropology vol. 1, no. 3, pp. 1-4. Portales.

**Appendix A:  
List of Parcels in the World Logistics Center**

## LIST OF PARCELS IN THE WORLD LOGISTICS CENTER

Table A-1 below identifies the list of Assessor Parcel numbers in the World Logistics Center that were surveyed or considered for survey by MBA staff between 2005 and 2012. Abbreviations used in the table are:

- DNS: Could not survey due to access issues or incomplete survey due to dense vegetation.
- OS: Open space. Owned by SDGE or CDFG and therefore not surveyed

**Table A-1: List of Parcels in the World Logistics Center**

APN (171 Listed)	Acreage	Date Surveyed	Comment
422070005	1.25	July 2011	
422070006	42.44	July 2011	
422070010	40.00	July 2011	
422070014	10.09	DNS	No survey, currently occupied by landowner
422070017	53.03	July 2011	
422070018	26.36	July 2011	
422070019	13.03	July 2011	
422070020	26.36	July 2011	
422070021	43.67	July 2011	
422070022	19.30	July 2011	
422070029	2.64	DNS	
422070030	2.59	DNS	
422070031	2.61	DNS	
422070032	2.61	DNS	
422070033	10.65	DNS	
422070034	2.24	DNS	
422070035	2.24	DNS	
422070036	2.45	DNS	
422070037	2.45	DNS	
422080001	3.70	July 2011	
422080002	45.86	July 2011	
422040009	132.5	DNS	Access Issues
422040010	17.6	DNS	Access Issues

**Table A-1 (cont): List of Parcels in the Highland Fairview Specific Plan**

APN (171 Listed)	Acreage	Date Surveyed	Cultural Resources Status
422040014	22.88	DNS	Access Issues
422040014	3.42	DNS	Access Issues
422080003	260.04	July 2011	
422080004	6.70	July 2011	
422110001	19.44	Part, July 2007	Partly surveyed, covered in dense weeds.
422130001	68.70	Part, July 2007	Partly surveyed, covered in dense weeds.
422130002	68.45	DNS	Unable to be surveyed, covered in dense weeds.
422130003	11.20	DNS	Unable to be surveyed, covered in dense weeds.
423250001	0.01	September 2005	
423250002	15.04	September 2005	
423250007	41.83	September 2005	
423250008	51.53	September 2005	
423250009	47.94	September 2005	
423250010	2.38	September 2005	
423250011	41.28	September 2005	
423250012	43.39	September 2005	
423250013	40.73	September 2005	
423250018	69.75	September 2005	
423260001	0.92	September 2005	
423260002	46.10	September 2005	
423260003	48.56	September 2005	
423260004	48.53	September 2005	
423260005	55.72	September 2005	
423260006	39.21	September 2005	
423260007	40.31	September 2005	
423260008	40.06	September 2005	
423260009	50.13	September 2005	
423270003	41.22	June 2007	
423270004	38.02	June 2007	
423270006	38.76	June 2007	
423270007	11.25	DNS	SDGE Facility. OS.
423270008	5.22	DNS	OS.
423270009	2.81	DNS	OS.

**Table A-1 (cont): List of Parcels in the Highland Fairview Specific Plan**

APN (171 Listed)	Acreage	Date Surveyed	Cultural Resources Status
423270017	20.47	June 2007	
423270018	42.62	June 2007	
423280001	45.83	June 2007	
423280002	47.71	June 2007	
423280003	47.86	June 2007	
423280004	63.02	part, June 2007	The portion west of the large drainage could be surveyed or about 1/8 the total acreage
423280005	1.16	DNS	State land. OS
423280006	37.77	June 2007	
423280007	39.28	June 2007	
423280008	39.41	June 2007	
423280009	51.00	Part, June 2007	The portion west of the large drainage was surveyed or about one-eighth the total acreage
423300002	39.03	DNS	State. OS
423300004	42.36	DNS	State. OS
423300009	41.05	DNS	State. OS
423300010	42.80	DNS	State. OS
423310001	42.88	June 2007	
423310002	41.31	June 2007	
423310003	38.82	DNS	State. OS
423310004	58.03	DNS	State. OS
423310005	63.66	DNS	State. OS
423310006	43.90	DNS	State. OS
423310008	40.00	DNS	State. OS
478210054	8.91	August 2005	
478210055	9.81	August 2005	
478220001	27.76	August 2005	
478220002	9.39	August 2005	
478220003	8.98	August 2005	
478220004	8.98	August 2005	
478220005	9.39	August 2005	
478220006	9.39	August 2005	
478220007	8.98	August 2005	
478220009	9.39	DNS	No survey, currently occupied by landowner

**Table A-1 (cont): List of Parcels in the Highland Fairview Specific Plan**

<b>APN (171 Listed)</b>	<b>Acreage</b>	<b>Date Surveyed</b>	<b>Cultural Resources Status</b>
478220010	9.39	August 2005	
478220011	8.98	August 2005	
478220012	8.98	August 2005	
478220013	9.39	August 2005	
478220014	8.98	August 2005	
478220015	18.37	August 2005	
478220016	18.37	August 2005	
478220017	8.98	August 2005	
478220018	9.39	August 2005	
478220019	9.39	August 2005	
478220020	8.98	August 2005	
478220021	8.98	August 2005	
478220022	9.39	August 2005	
478220023	9.39	August 2005	
478220024	8.98	August 2005	
478220025	8.98	August 2005	
478220026	9.39	August 2005	
478220027	9.39	August 2005	
478220028	8.98	August 2005	
478220029	2.82	DNS	No survey, currently occupied by landowner
478220030	2.82	DNS	No survey, currently occupied by landowner
478220031	3.03	DNS	No survey, currently occupied by landowner
478230001	8.14	August 2005	
478230002	8.95	August 2005	
478230003	9.38	August 2005	
478230004	9.39	August 2005	
478230005	8.98	August 2005	
478230006	8.98	August 2005	
478230007	73.48	August 2005	
478230008	36.38	July 2011	
478230009	9.39	August 2005	
478230010	8.98	August 2005	
478230011	9.39	August 2005	

**Table A-1 (cont): List of Parcels in the Highland Fairview Specific Plan**

APN (171 Listed)	Acreage	Date Surveyed	Cultural Resources Status
478230014	8.69	August 2005	
478230015	8.69	July 2011	
478230016	9.10	July 2011	
478230017	0.01	July 2011	
478230019	9.63	August 2005	
478230020	8.90	August 2005	
478240002	8.98	August 2005	
478240003	8.98	August 2005	
478240005	9.10	August 2005	
478240006	9.10	August 2005	
478240007	8.69	August 2005	
478240008	9.39	August 2005	
478240011	8.98	Sept 2005	
478240012	9.0	2005	
478240013	9.0	April 2012	
478240014	4.7	April 2012	
478240015	4.7	April 2012	
478240016	9.0	April 2012	
478240017	9.11	July 2011	Very steep: reconnaissance survey only
478240019	9.11	July 2011	Very steep: reconnaissance survey only
478240021	8.68	August 2005	
478240022	8.84	August 2005	
478240023	8.84	August 2005	
478240024	9.39	August 2005	
478240025	8.97	August 2005	
478240026	9.55	July 2011	Very steep: reconnaissance survey only
478240027	9.55	July 2011	Very steep: reconnaissance survey only
478240028	8.97	Sept 2005	
478240029	9.39	Sept 2005	
478240030	9.39	Sept 2005	
478240031	2.04	August 2005	
478240032	2.04	August 2005	
478240033	1.76	August 2005	

**Table A-1 (cont): List of Parcels in the Highland Fairview Specific Plan**

<b>APN (171 Listed)</b>	<b>Acreage</b>	<b>Date Surveyed</b>	<b>Cultural Resources Status</b>
478240034	1.76	August 2005	
488350003	8.55	August 2005	
488350004	9.40	August 2005	
488350005	9.40	August 2005	
488350006	8.97	August 2005	
488350007	8.97	August 2005	
488350008	9.40	August 2005	
488350009	9.40	August 2005	
488350010	8.97	August 2005	
488350012	8.97	August 2005	Surveyed, but parcel has been renamed by the County.
488350013	8.97	August 2005	Surveyed, but parcel has been renamed by the County.
488350014	8.97	August 2005	Surveyed, but parcel has been renamed by the County.
488350015	33.65	August 2005	Surveyed, but parcel has been renamed by the County.
488350019	8.75	August 2005	Surveyed, but parcel has been renamed by the County.
488350021	9.17	August 2005	Surveyed, but parcel has been renamed by the County.
488350023	9.17	August 2005	Surveyed, but parcel has been renamed by the County.
488350025	8.75	August 2005	Surveyed, but parcel has been renamed by the County.
<b>Total</b>	<b>3,692</b>		

## **Appendix B: Cultural Resource 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:** The Highlands Specific Plan and EIR

**County:** Riverside County – City of Moreno Valley (Lead Agency).

**USGS Quadrangle Name:** Sunnymead, El Casco

**Township 2 North / Range 3 West. Section(s):** 1, 12, 13

**Township 3 South / Range 2 West. Section(s)** 6, 7, 8, 16, 17, 18, and 19

**Company/Firm/Agency:** Michael Brandman Associates

**Contact Person:** Michael H. Dice, M.A.

**Street Address:** 621 E. Carnegie Dr. Suite #100 San Bernardino CA. 92408

**Cell** 714.742.0468 (preferred number)

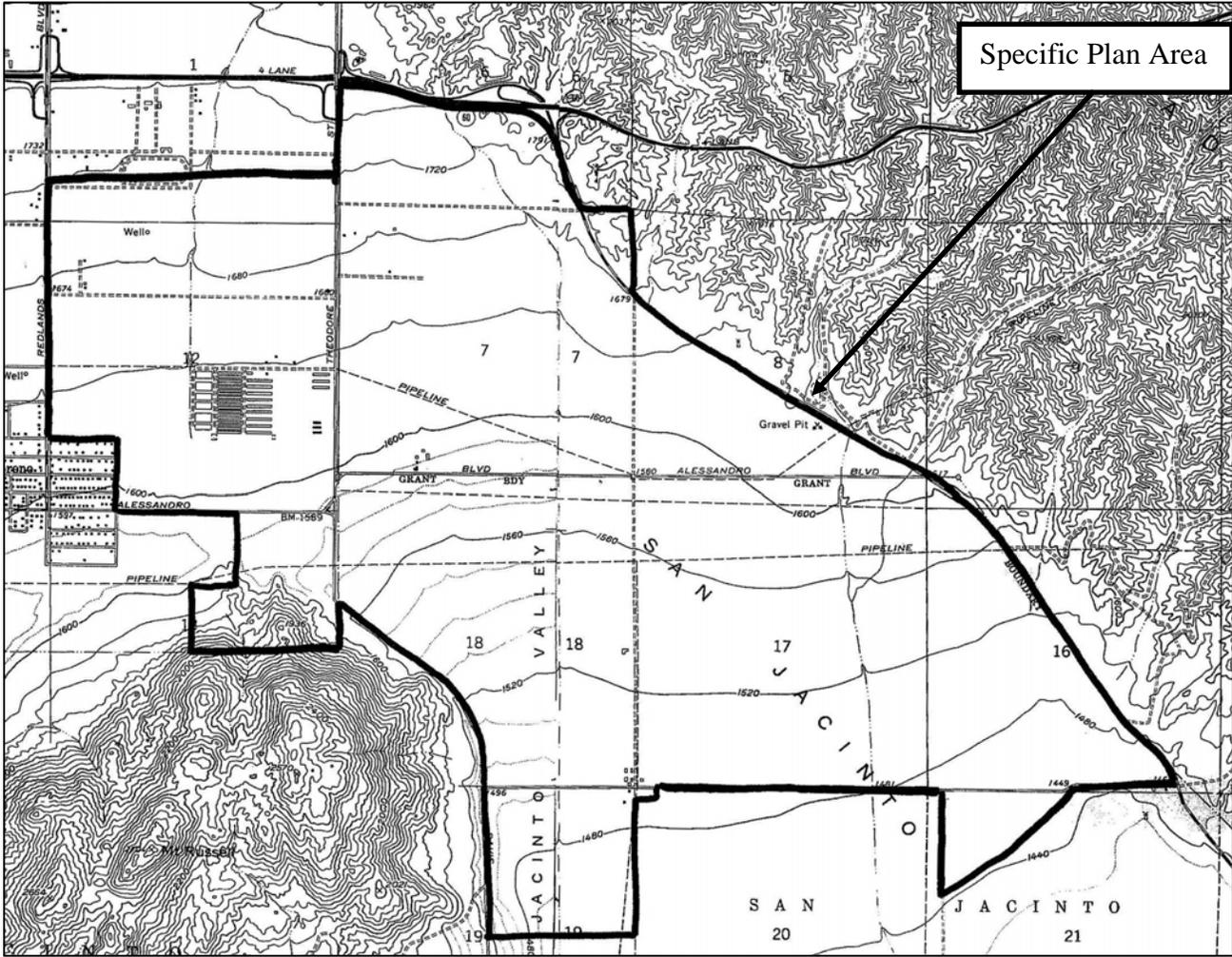
**Office Phone:** 909.884.2255

**Fax:** 909.884.2113 (preferred delivery method)

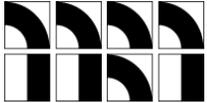
**Email:** [mdice@brandman.com](mailto:mdice@brandman.com)

SEE ATTACHED MAP (scale of topo reduced)

The proposed Specific Plan is located on approximately 3,200 acres of agricultural land in the City of Moreno Valley. Current cultural resource work is associated with a Programmatic EIR for future development of commercial and possibly residential tracts. Most of the property inside the Specific Plan boundary (see map) was surveyed by MBA staff for an earlier iteration of this project. Previous Native American compliance work took place in 2005-2007.



Source: Topo! @ National Geographic Holdings.



Michael Brandman Associates

2610.0025.0 • 3/2011 | CR Exhibit 1

**Exhibit 1**  
**Topographic Map (Scale Reduced)**

The Highland Specific Plan • Cultural Resource Review

STATE OF CALIFORNIAEdmund G. Brown, Jr., Governor**NATIVE AMERICAN HERITAGE COMMISSION**

915 CAPITOL MALL, ROOM 364  
SACRAMENTO, CA 95814  
(916) 653-6251  
Fax (916) 657-5390  
Web Site [www.nahc.ca.gov](http://www.nahc.ca.gov)  
e-mail: [da\\_nahc@pacbell.net](mailto:da_nahc@pacbell.net)



March 25, 2011

Mr. Michael H. Dice, M.A., Archaeologist

**Michael Brandman Associates**

621 E. Carnegie Drive, Suite 100  
San Bernardino, CA 92408

Sent by FAX to: 909-884-2113  
No. of Pages: 2

Re: Tribal Consultation Per Government Code §§ 65092, 65351, 65352.3, 65352.4, 65560 and 65562.5 (SB 18) for the The Highlands Specific Plan and CEQA Environmental Impact Report (EIR). Project:: located in the City of Moreno Valley; Riverside County, California

Dear Mr. Dice:

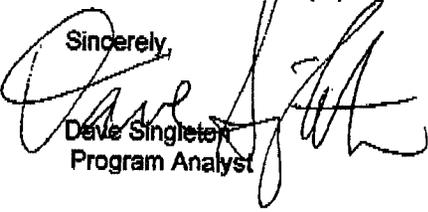
Government Code §65352.3 requires local governments to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of protecting, and/or mitigating impacts to cultural places. The Native American Heritage Commission is the state "trustee agency" designated for the protection of Native American Cultural Resource pursuant to CA Public Resources Code §21070.. Attached is a consultation list of tribes with traditional lands or cultural places located within the Project Area of Potential Effect (APE). The tribal entities on the list are for your guidance for **government-to-government consultation** purposes.

The NAHC did perform a Sacred Lands File search of the project location and **Native American cultural resources were not identified** in the 'area of potential effect.' (APE). Please contact the Native Americans on the attached list to determine if the proposed changes might impact on Native American cultural resources..

The Native American Heritage Commission works with Native American tribal governments regarding its identification of 'Areas of Traditional Use.' The Commission may adjust the submitted data defining the 'Area of Traditional Use' in accordance with generally accepted ethnographic, anthropological, archeological research and oral history. Also, the Area of Traditional Use is an issue appropriate for the government-to-government consultation process.

If you have any questions, please contact me at (916) 653-6251.

Sincerely,

  
Dave Singleton  
Program Analyst

Attachment: Native American Tribal Consultation List

**Native American Tribal Consultation List  
Riverside County  
March 25, 2011**

**Pala Band of Mission Indians**  
Tribal Historic Preservation Office  
35008 PalaTemecula Rd, PMB 445  
Pala, CA 92059  
sgaughen@palatribe.com  
(760) 891-3500

Luiseno  
Cupeno

**Santa Rosa Band of Mission Indians**  
Mayme Estrada, Chairwoman  
P.O. Box 609  
Hemet, CA 92546  
srbcioffice@yahoo.com  
(951) 658-5311  
(951) 658-6733 Fax

Cahuilla

**Pauma & Yuima Reservation**  
Randall Majel, Chairperson  
P.O. Box 369  
Pauma Valley, CA 92061  
paumareservation@aol.com  
(760) 742-1289

Luiseno

**Morongo Band of Mission Indians**  
Robert Martin, Chairperson  
12700 Pumarra Road  
Banning, CA 92220  
(951) 849-8807  
(951) 755-5200

Cahuilla  
Serrano

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

Cahuilla

**Pechanga Band of Mission Indians**  
Mark Macarro, Chairperson  
P.O. Box 1477  
Temecula, CA 92593  
tbrown@pechanga-nsn.gov  
(951) 770-6100

Luiseno

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

Serrano

**Serrano Nation of Indians**  
Goldie Walker  
P.O. Box 343  
Patton, CA 92369  
(909) 862-9883

Serrano

**Soboba Band of Mission Indians**  
Scott Cozaet, Chairperson  
P.O. Box 487  
San Jacinto, CA 92581  
dhill@soboba-nsn.gov  
(951) 654-2765

Luiseno

**Cahuilla Band of Indians**  
Luther Salgado, Sr., Chairperson  
PO Box 391760  
Anza, CA 92539  
tribalcouncil@cahuilla.net  
915-763-5549

Cahuilla

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

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

This list is applicable only for consultation with Native American tribes under Government Code Section 65352.3.



March 28, 2011

Cultural Resources Coordinator Diana L. Chihuahua  
Torres-Martinez Desert Cahuilla Indians  
P.O. Box 1160  
Thermal, CA 92274

Fresno  
559.497.0310

Irvine  
714.508.4100

Palm Springs  
760.322.8847

Sacramento  
916.447.1100

San Bernardino  
909.884.2255

San Ramon  
925.830.2733

Subject: **Native American Information Request Letter associated with a Cultural Resource Survey and Evaluation for The Highlands Specific Plan Project-Level EIR located in the City of Moreno Valley, California. (USGS Sunnymead and El Casco, CA. quads)**

Dear Cultural Resources Coordinator Chihuahua:

Michael Brandman Associates CRM staff is undertaking an analysis of a large Specific Plan located in the far eastern portion of the City of Moreno Valley. Approximately 3700 acres of land is located within the Specific Plan boundary of which roughly 2200 acres was surveyed by MBA CRM teams in 2005 and 2007 as part of an earlier analysis of this project. In addition, MBA staff tested a series of prehistoric cultural resource sites in 2007 located at the northern toe of Mt. Russell, a work effort that included Soboba Cultural staff serving as a monitor. We shall recommend that those prehistoric sites be avoided by at least 100 feet during construction.

An additional 1500 acres has yet to be surveyed within the SP boundary. MBA staff may not be able to directly survey some of this acreage due to lack of trespassing rights, but this may change in 2011. However, because our report shall be written in support of a Program EIR, we need not directly survey every parcel in the SP boundary. Parcels we could not visit can be surveyed once an Initial Study in preparation of a Project EIR, which would detail the exact construction requirements, has been developed.

It must be noted that almost all of the parcels in the Specific Plan have been farmed for many decades. Initially, much of the property was in citrus in the 1920's and early 1930's. With the onset of the Depression, most of the citrus was abandoned and the land was converted to dryland cropping. Irrigation began in the late 1950's and some of the property is used for alfalfa, hay and/or vegetables.

We are writing you as part of our historical information scoping requirement. This information request letter is **not associated with the SB18 process**, but is a document that shall be included in our cultural resource survey report. CEQA and Section 106 of the National Historic Preservation Act of 1966 (NHPA) must consider the effects a project may have on historic properties. The definition of "historic properties" can include properties of traditional religious and cultural significance to Native American groups. To determine whether the proposed project may impact any such historic properties, including traditional cultural properties, MBA has reviewed background information and consulted with entities such as the NAHC. The Native American Heritage Commission does not indicate that any Native American cultural resources are located within this project area.

Diana L.Chihuahua  
March 28, 2011  
Page 2

Because the NAHC listed you as a tribal contact, we wish to ask if you have any information or concerns about this project area, and/or if the proposed project may have an impact on cultural resources that are important to you. Please feel free to contact me at 909.884.2255 ext 1208 if you have any questions or information, or you may address and mail a response to my attention at the address below.

Sincerely,

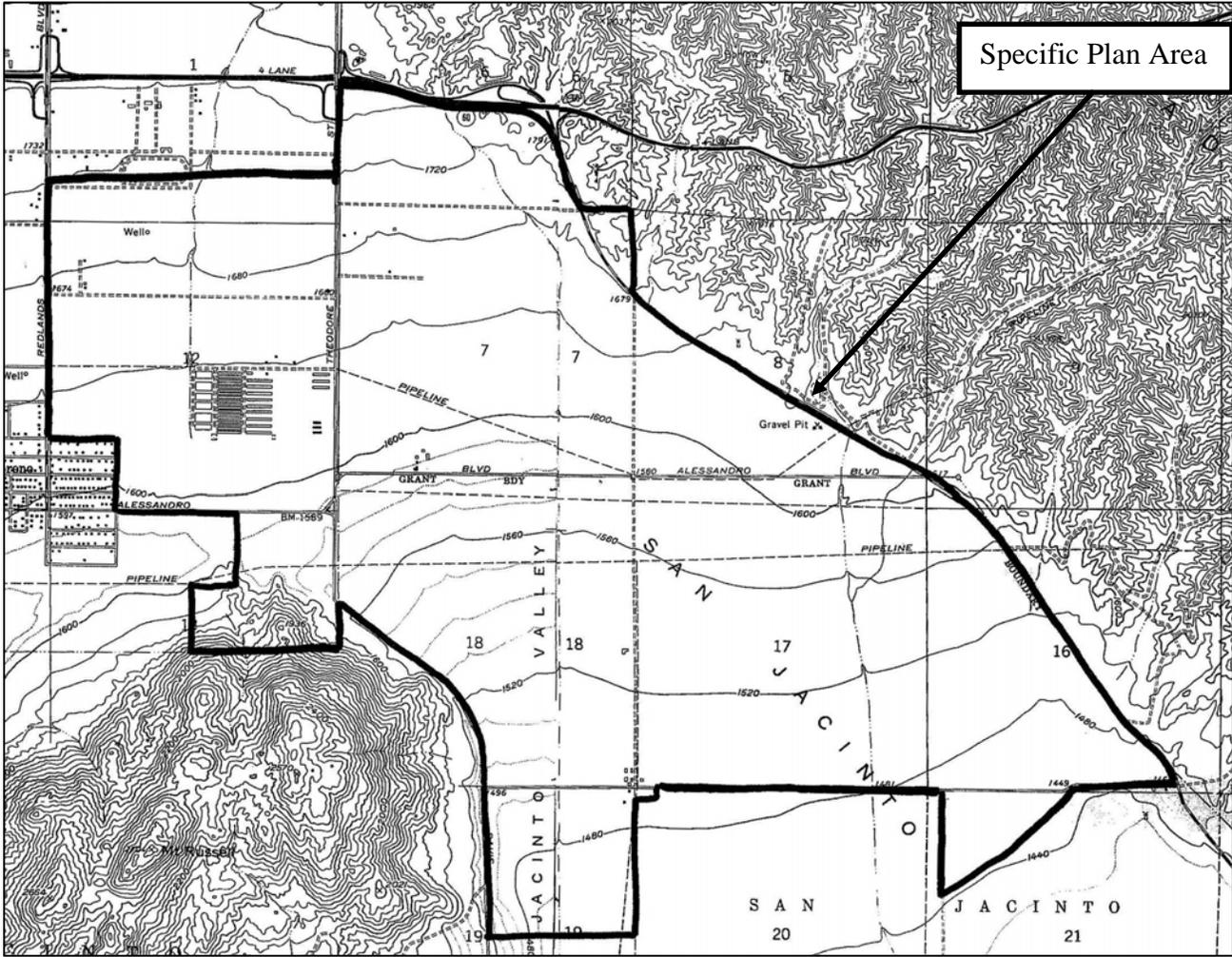


Michael H. Dice, M.A., Senior Archaeologist  
Michael Brandman Associates  
621 E Carnegie Drive, Suite 100  
San Bernardino, CA 92408

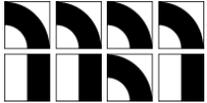
Enc: USGS *Sunnymead and El Casco, CA* topographic maps

Q:\Michael Dice\2011 projects\2610.0025.0 HF Specific Plan and CRM\2011 work for SP\new NAHC and NA work\2610.0025.0\_NA Tribal Letter.doc

SAMPLE



Source: Topo! @ National Geographic Holdings.



Michael Brandman Associates

2610.0025.0 • 3/2011 | CR Exhibit 1

**Exhibit 1**  
**Topographic Map (Scale Reduced)**

The Highland Specific Plan • Cultural Resource Review

June 8, 2011

Attn: Michael Dice, M.A., R.P.A., Senior Archaeologist  
Michael Brandman Associates  
621 E. Carnegie Drive, Suite 100  
San Bernardino, CA 92408



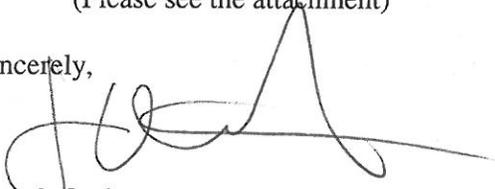
**Re: Native American Consultation Letter associated with Cultural Resource Survey and Evaluation for The Highlands Specific Plan Project, located in the City of Moreno Valley, Riverside County**

The Soboba Band of Luiseño Indians appreciates your observance of Tribal Cultural Resources and their preservation in your project. The information provided to us on said project has been assessed through our Cultural Resource Department, where it was concluded that although it is outside the existing reservation, the project area does fall within the bounds of our Tribal Traditional Use Areas. This project is located closer to Soboba Indian Reservation than others, and this project location is in close proximity to known village sites and is a shared use area that was used in ongoing trade between the Luiseno and Cahuilla tribes. This project it is regarded as highly sensitive to the people of Soboba.

Soboba Band of Luiseño Indians is requesting the following:

1. **Government to Government** consultation in accordance to SB18. Including the transfer of information to the Soboba Band of Luiseno Indians regarding the progress of this project should be done as soon as new developments occur.
2. Soboba Band of Luiseño Indians continue to be a lead consulting tribal entity for this project.
3. Working in and around traditional use areas intensifies the possibility of encountering cultural resources during the construction/excavation phase. For this reason the Soboba Band of Luiseño Indians requests that Native American Monitor(s) from the Soboba Band of Luiseño Indians Cultural Resource Department to be present during any ground disturbing proceedings. Including surveys and archaeological testing.
4. Request that proper procedures be taken and requests of the tribe be honored (Please see the attachment)

Sincerely,

  
Joseph Ontiveros  
Soboba Cultural Resource Department  
P.O. Box 487  
San Jacinto, CA 92581  
Phone (951) 654-5544 ext. 4137  
Cell (951) 663-5279  
[jontiveros@soboba-nsn.gov](mailto:jontiveros@soboba-nsn.gov)

RECEIVED  
6/15/11

**Cultural Items (Artifacts).** Ceremonial items and items of cultural patrimony reflect traditional religious beliefs and practices of the Soboba Band. The Developer should agree to return all Native American ceremonial items and items of cultural patrimony that may be found on the project site to the Soboba Band for appropriate treatment. In addition, the Soboba Band requests the return of all other cultural items (artifacts) that are recovered during the course of archaeological investigations. Where appropriate and agreed upon in advance, Developer's archeologist may conduct analyses of certain artifact classes if required by CEQA, Section 106 of NHPA, the mitigation measures or conditions of approval for the Project. This may include but is not limited or restricted to include shell, bone, ceramic, stone or other artifacts.

The Developer should waive any and all claims to ownership of Native American ceremonial and cultural artifacts that may be found on the Project site. Upon completion of authorized and mandatory archeological analysis, the Developer should return said artifacts to the Soboba Band within a reasonable time period agreed to by the Parties and not to exceed (30) days from the initial recovery of the items.

**Treatment and Disposition of Remains**

A. The Soboba Band shall be allowed, under California Public Resources Code § 5097.98 (a), to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and grave goods shall be treated and disposed of with appropriate dignity.

B. The Soboba Band, as MLD, shall complete its inspection within twenty-four (24) hours of receiving notification from either the Developer or the NAHC, as required by California Public Resources Code § 5097.98 (a). The Parties agree to discuss in good faith what constitutes "appropriate dignity" as that term is used in the applicable statutes.

C. Reburial of human remains shall be accomplished in compliance with the California Public Resources Code § 5097.98 (a) and (b). The Soboba Band, as the MLD in consultation with the Developer, shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains.

D. All parties are aware that the Soboba Band may wish to rebury the human remains and associated ceremonial and cultural items (artifacts) on or near, the site of their discovery, in an area that shall not be subject to future subsurface disturbances. The Developer should accommodate on-site reburial in a location mutually agreed upon by the Parties.

E. The term "human remains" encompasses more than human bones because the Soboba Band's traditions periodically necessitated the ceremonial burning of human remains. Grave goods are those artifacts associated with any human remains. These items, and other funerary remnants and their ashes are to be treated in the same manner as human bone fragments or bones that remain intact

**Coordination with County Coroner's Office.** The Lead Agencies and the Developer should immediately contact both the Coroner and the Soboba Band in the event that any human remains are discovered during implementation of the Project. If the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, the Coroner shall ensure that notification is provided to the NAHC within twenty-four (24) hours of the determination, as required by California Health and Safety Code § 7050.5 (c).

**Non-Disclosure of Location Reburials.** It is understood by all parties that unless otherwise required by law, the site of any reburial of Native American human remains or cultural artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code § 6254 (r).

Ceremonial items and items of cultural patrimony reflect traditional religious beliefs and practices of the Soboba Band. The Developer agrees to return all Native American ceremonial items and items of cultural patrimony that may be found on the project site to the Soboba Band for appropriate treatment. In addition, the Soboba Band requests the return of all other cultural items (artifacts) that are recovered during the course of archaeological investigations. Where appropriate and agreed upon in advance, Developer's archeologist may conduct analyses of certain artifact classes if required by CEQA, Section 106 of NHPA, the mitigation measures or conditions of approval for the Project. This may include but is not limited or restricted to include shell, bone, ceramic, stone or other artifacts.



**PALA BAND OF MISSION INDIANS**  
Tribal Historic Preservation Office  
35008 Pala Temecula Rd. PMB 445  
Pala, CA 92059

RECEIVED  
APR 11 2011

Ph: (760) 891-3591  
Fax: (760) 742-4543

April 5, 2011

Michael H. Dice  
Michael Brandman Associates  
621 E Carnegie Drive, Suite 100  
San Bernardino, Ca 92408

Re: The Highlands Specific Plan Project- Moreno Valley, Ca

Dear Mr. Dice:

The Pala Band of Mission Indians Tribal Historic Preservation Office has received your notification of the project referenced above. This letter constitutes our response on behalf of Robert Smith, Tribal Chairman.

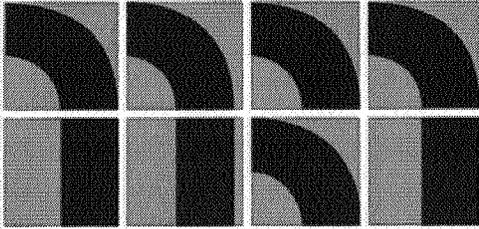
We have consulted our maps and determined that the project as described is not within the boundaries of the recognized Pala Indian Reservation. The project is also beyond the boundaries of the territory that the tribe considers its Traditional Use Area (TUA). Therefore, we have no objection to the continuation of project activities as currently planned and we defer to the wishes of Tribes in closer proximity to the project area.

We appreciate involvement with your initiative and look forward to working with you on future efforts. If you have questions or need additional information, please do not hesitate to contact me by telephone at 760-891-3515 or by e-mail at [sgaughen@palatribe.com](mailto:sgaughen@palatribe.com).

Sincerely,

Shasta C. Gaughen, MA  
Tribal Historic Preservation Officer  
Pala Band of Mission Indians

ATTENTION: THE PALA TRIBAL HISTORIC PRESERVATION OFFICE IS RESPONSIBLE FOR ALL REQUESTS FOR CONSULTATION. PLEASE ADDRESS CORRESPONDENCE TO **SHASTA C. GAUGHEN** AT THE ABOVE ADDRESS. IT IS NOT NECESSARY TO ALSO SEND NOTICES TO PALA TRIBAL CHAIRMAN ROBERT SMITH.



Michael Brandman Associates

ENVIRONMENTAL SERVICES • PLANNING • NATURAL RESOURCES MANAGEMENT

May 4, 2005

Via Fax: 909-307-0539

Eric Scott  
San Bernardino County Museum  
Paleontologic Resource Assessment Program  
2024 Orange Tree Lane  
Redlands, CA 92374  
909-307-2669 (office)

**Subject: Request for a Paleontological Resources Records Search for the 1500 Acre Bel Lago Project. (USGS *Sunnymead and El Casco*, CA. topographic maps)**

Dear Ms. Springer or Mr. Scott:

I am in need of a records search on a block project area is located in Sections 1, 2, 11, 12, 13 and 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 21, T.3S R.2W and R.3W, as found on the USGS *Sunnymead and El Casco*, CA. 7.5' topographic quadrangles.

We have attached a topographic map showing the project location for your convenience. Please let me know if there shall be any depth restrictions with regard to monitoring. Monitor below 7 feet...5 feet????

Once the results have been determined, please fax the results to our office 714.508.4110 and mail MBA a hard copy. If you have any more questions or need to speak with me, please feel free to call me at 714.508.4100 ext 111. Thank you for your time and effort.

Sincerely,

Michael Dice M.A., Senior Archaeologist  
**Michael Brandman Associates**  
220 Commerce, Suite 200  
Irvine, CA. 92602

MD:ji

S:\MDice\Projects after Jan 2004\26100003 Bel Lago SP\Paleo Search Letter 26100003.doc

Bakersfield 661.334.2755 • Irvine 714.508.4100 • Sacramento 916.296.4857 • San Bernardino 909.884.2255 • San Ramon 925.830.2733 • Santa Cruz 831.262.1731 • San Diego 619.823.4937 • Visalia 559.739.0400

[www.brandman.com](http://www.brandman.com)

e-mail: [mba@brandman.com](mailto:mba@brandman.com)



# SAN BERNARDINO COUNTY MUSEUM

2024 Orange Tree Lane • Redlands, California USA 92374-4560  
(909) 307-2669 • Fax (909) 307-0539 • www.sbcountymuseum.org



COUNTY OF SAN BERNARDINO  
ECONOMIC DEVELOPMENT/  
PUBLIC SERVICES GROUP

ROBERT L. MCKERNAN  
Director

1 June 2005

Michael Brandman Associates  
attn: Michael Dice, M. A.  
220 Commerce, Suite #200  
Irvine, CA 92602

---

---

re: **PALEONTOLOGY RECORDS REVIEW, BEL LAGO PROJECT, SUNNYMEAD  
AREA, RIVERSIDE COUNTY, CALIFORNIA**

---

---

Dear Mr. Dice,

The Division of Geological Sciences of the San Bernardino County Museum (SBCM) has completed a records search for the above-named area in Riverside County. The proposed property is specifically located within portions of sections 1, 2, 11, 12, 13, 14 and 24, Township 3 South, Range 3 West, San Bernardino Base and Meridian, as well as sections 5 - 9, inclusive, and sections 15 - 22, inclusive, T 3S, R 2W, SBB&M, as shown on the El Casco, California and Sunnymead, California 7.5' United States Geological Survey topographic quadrangle maps (1979 and 1980 photorevised editions, respectively).

Previous geologic mapping of the proposed project property (Rogers, 1965) indicates that the majority of the property is situated upon Quaternary recent alluvium. These sediments have low potential to contain significant nonrenewable paleontologic resources, and are therefore determined to have low paleontologic sensitivity. However, these recent sediments likely overlie older Pleistocene alluvium having high paleontologic sensitivity. Older Pleistocene alluvial sediments elsewhere throughout the Inland Empire have been reported to yield significant fossils of plants and extinct animals from the Ice Age (Jefferson, 1991; Reynolds and Reynolds, 1991; Woodburne, 1991; Springer and Scott, 1994; Scott, 1997; Springer and others, 1998, 1999; Anderson and others, 2002). Fossils recovered from these Pleistocene sediments represent extinct taxa including mammoths, mastodons, ground sloths, dire wolves, short-faced bears, sabre-toothed cats, large and small horses, large and small camels, and bison (Jefferson, 1991; Reynolds and Reynolds, 1991; Woodburne, 1991; Springer and Scott, 1994; Scott, 1997; Springer and others, 1998, 1999). Should excavation expose these older Pleistocene sediments at depth, such excavation would have high potential to impact significant nonrenewable paleontologic resources.

The northeastern portion of the property is situated upon sediments mapped (Rogers, 1965) as surface exposures of the highly fossiliferous San Timoteo Formation. Previous geologic and paleontologic investigations of this formation, including those by Frick (1921, 1933), May and Reppenning (1982), Axelrod (1937, 1950, 1966) Reynolds and Reeder (1986, 1991), Morton and

MARK H. UFFER  
County Administrative Officer  
NORMAN A. KANOLD  
Assistant County Administrator  
Economic Development/  
Public Services Group

Board of Supervisors  
BILL POSTMUS ..... First District      DENNIS HANSBERGER ..... Third District  
PAUL BIANE ..... Second District      GARY C. OVITT ..... Fourth District  
JOSIE GONZALES ..... Fifth District

Matti (1993) Albright and Woodburne (1993) and Albright (1997, 2000), indicate that the San Timoteo Formation is extremely fossiliferous and has a high potential to contain significant nonrenewable paleontologic resources subject to adverse impacts by excavation during development.

The southwest portion of the proposed project property is mapped (Rogers, 1965) as nonfossiliferous Mesozoic granitic rock. This exposure has no potential to contain paleontologic resources, and so is assigned low paleontologic sensitivity.

A review of the Regional Paleontologic Locality Inventory (RPLI) was conducted by Craig R. Manker of the Division of Geological Sciences, SBCM. The results of this review indicate that several paleontologic resource localities (SBCM 5.3.012, 5.3.014, 5.3.026, 5.3.027, 5.3.029, 5.3.031, 5.3.056, 5.3.060, 5.3.107 and 5.3.157) are recorded from within the boundaries of the proposed project property, from exposures of the San Timoteo Formation. These localities have yielded fossil remains of horses, tapirs, sloths, camels, rabbits and rodents dating to the later Pliocene and earliest Pleistocene Epochs. Additionally, numerous localities (SBCM 5.3.004, 5.3.010 - 5.3.011, 5.3.013, 5.3.014, 5.3.028, 5.3.043, 5.3.046 - 5.3.048, 5.3.054, 5.3.055, 5.3.057, 5.3.058, 5.3.059, 5.3.106, 5.3.108, 5.3.150, 5.3.54, 5.3.55, 5.3.58, 5.3.59, 5.3.208 - 5.3.213, 5.3.227, 5.3.246 - 5.3.249, and 5.3.251 - 5.3.255) are recorded from within one mile of the perimeter of the northeastern portion of the Bel Lago property, again from exposures of the San Timoteo Formation; these localities have yielded abundant fossil remains of extinct Plio-Pleistocene vertebrates

## **Recommendations**

The results of the review of the RPLI at the SBCM demonstrate that excavation in conjunction with development has high potential to adversely impact significant nonrenewable paleontologic resources present within the boundaries of the proposed project property. Exposures of the San Timoteo Formation, and possibly Pleistocene older alluvium at depth, have high paleontologic sensitivity. For this reason, A qualified vertebrate paleontologist must develop a program to mitigate these impacts. This mitigation program would need to be consistent with the provisions of the California Environmental Quality Act (Scott and Springer, 2003), as well as with regulations implemented by the County of San Bernardino and with the proposed guidelines of the Society of Vertebrate Paleontology. This program should include, but not be limited to:

1. Monitoring of excavation in areas identified as likely to contain paleontologic resources by a qualified paleontologic monitor. Based upon the results of this review, areas of concern within the proposed study area include any and all previously undisturbed exposures of the San Timoteo Formation, as well as any subsurface Pleistocene older alluvium. Paleontologic monitors should be equipped to salvage fossils as they are unearthed to avoid construction delays, and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. Monitors must be empowered to temporarily halt or

divert equipment to allow removal of abundant or large specimens. Monitoring may be reduced if the potentially-fossiliferous units described herein are not present in the subsurface, or if present are determined upon exposure and examination by qualified paleontologic personnel to have low potential to contain fossil resources.

2. Preparation of recovered specimens to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. Preparation and stabilization of all recovered fossils is essential in order to fully mitigate adverse impacts to the resources (Scott and others, 2004).
3. Identification and curation of specimens into an established, accredited museum repository with permanent retrievable paleontologic storage (e.g., SBCM). These procedures are also essential steps in effective paleontologic mitigation (Scott and others, 2004) and CEQA compliance (Scott and Springer, 2003). The paleontologist must have a written repository agreement in hand prior to the initiation of mitigation activities. Mitigation of adverse impacts to significant paleontologic resources is not complete until such curation into an established, accredited museum repository has been fully completed and documented.
4. Preparation of a report of findings with an appended itemized inventory of specimens. The report and inventory, when submitted to the appropriate Lead Agency along with confirmation of the curation of recovered specimens into an established, accredited museum repository, would signify completion of the program to mitigate impacts to paleontologic resources.

## References

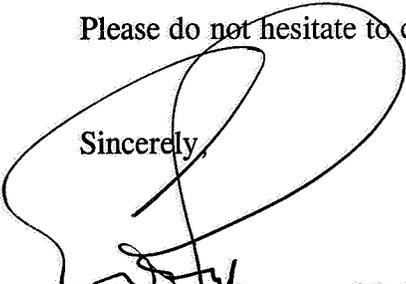
- Albright, L.B. III, 1997. Geochronology and vertebrate paleontology of the San Timoteo Badlands, southern California. Ph.D. dissertation, University of California, Riverside. 328 p. Copy on file, Division of Geological Sciences, SBCM.
- Albright, L.B. III, 2000. Biostratigraphy and vertebrate paleontology of the San Timoteo Badlands, southern California. University of California Publications, Geological Sciences, Volume 144. 121 p., 8 pl.
- Albright, L.B. III and M.O. Woodburne, 1993. Refined chronologic resolution of the San Timoteo Badlands, Riverside County, California, and tectonic implications: a prospectus, *in* R.E. and J. Reynolds (eds.), Ashes, faults and basins. Redlands: SBCM Association Special Publication 93-1, p. 104-105.
- Anderson, R.S., M.J. Power, S.J. Smith, K.B. Springer and E. Scott, 2002. Paleoecology of a Middle Wisconsin deposit from southern California. *Quaternary Research* 58(3): 310-317.
- Axelrod, D.I., 1937. A Pliocene flora from the Mount Eden beds, southern California. *Carnegie Inst. Wash. Publ.* 476: 125-183.
- Axelrod, D.I., 1950. Further studies of the Mount Eden flora, southern California. *Carnegie Inst. Wash. Publ.* 590: 73-117.

- Axelrod, D.I., 1966. The Pleistocene Soboba flora of southern California. Univ. Calif. Publications in Geological Sciences Number 60, 79 p.
- Frick, C., 1921. Extinct vertebrate faunas of the badlands of Bautista Creek and San Timoteo Cañon, southern California. Univ. Calif. Publications in Geology 12(5): 277-424.
- Frick, C., 1933. New remains of trilophodont - tetrabelodont mastodons. American Museum of Natural History Bulletin 59: 505-652.
- Jefferson, G.T., 1991. A catalogue of late Quaternary vertebrates from California: Part Two, mammals. Natural History Museum of Los Angeles County Technical Reports, No. 7.
- May, S.R. and C.A. Reppenning, 1982. New evidence for the age of the Mount Eden fauna, southern California. Journal of Vertebrate Paleontology 2(1): 109-113.
- Morton, D.M. and J.C. Matti, 1993. Tectonic synopsis of the San Gorgonio Pass and San Timoteo Badlands areas, southern California. SBCM Association Quarterly 40(2): 3-14.
- Pajak, A.F. III, E. Scott and C.J. Bell, 1996. A review of the biostratigraphy of Pliocene and Pleistocene sediments in the Elsinore Fault Zone, Riverside County, California, in C.J. Bell and S.S. Sumida (eds.), The uses of vertebrate fossils in biostratigraphic correlation. PaleoBios 17 (2-4): 27-48.
- Reynolds, S.F.B. and W.A. Reeder, 1986. Age and fossil assemblages of the San Timoteo Formation, Riverside County, California, in Geology around the margins of the eastern San Bernardino Mountains, M.A. Kooser and R.E. Reynolds, eds. Redlands: Inland Geological Society Publications 1:51-56.
- Reynolds, S.F.B. and W.A. Reeder, 1991. The San Timoteo Formation, Riverside County, California in Inland Southern California: the last 70 million years, M.O. Woodburne, R.E. Reynolds and D.P. Whistler, eds. Redlands: SBCM Association Quarterly 38(3&4): 44-48.
- Reynolds, R.E. and R.L. Reynolds, 1991. The Pleistocene beneath our feet: near-surface Pleistocene fossils in inland southern California basins, in Inland Southern California: the last 70 million years, M.O. Woodburne, R.E. Reynolds, and D.P. Whistler, eds. Redlands, San Bernardino County Museum Special Publication 38(3&4), p. 41-43.
- Rogers, T.H., 1965. Geologic map of California, Santa Ana sheet, scale 1:250,000. California Division of Mines and Geology Regional Geologic Map Series.
- Scott, E., 1997. A review of *Equus conversidens* in southern California, with a report on a second, previously-unrecognized species of Pleistocene small horse from the Mojave Desert. Journal of Vertebrate Paleontology 17(3): 75-A.
- Scott, E., 1998. *Equus scotti* from southern California. Journal of Vertebrate Paleontology 18(3): 76-A.
- Scott, E. and S.M. Cox, 1993. *Arctodus simus* (Cope), 1879 from Riverside County, California. In R.J. Dundas and D.J. Long (eds.), New additions to the Pleistocene vertebrate record of southern California. PaleoBios 15(2): 27-36.
- Scott, E. and K. Springer, 2003. CEQA and fossil preservation in southern California. The Environmental Monitor, Fall 2003, p. 4-10, 17.

- Scott, E., K. Springer and J.C. Sagebiel, 2004. Vertebrate paleontology in the Mojave Desert: the continuing importance of "follow-through" in preserving paleontologic resources. In M.W. Allen and J. Reed (eds.) The human journey and ancient life in California's deserts: Proceedings from the 2001 Millennium Conference. Ridgecrest: Maturango Museum Publication No. 15, p. 65-70.
- Springer, K.B. and E. Scott, 1994. First record of late Pleistocene vertebrates from the Domenigoni Valley, Riverside County, California. *Journal of Vertebrate Paleontology* 14 (supplement to 3):47A.
- Springer, K.B., E. Scott, L.K. Murray and W.G. Spaulding, 1998. Partial skeleton of a large individual of *Mammot americanum* from the Domenigoni Valley, Riverside County, California. *Journal of Vertebrate Paleontology* 18(3): 78-A.
- Springer, K.B., E. Scott, J.C. Sagebiel and K.M. Scott, 1999. A late Pleistocene lake edge vertebrate assemblage from the Diamond Valley, Riverside County, California. *Journal of Vertebrate Paleontology* 19(3): 77-A.
- Woodburne, M.O., 1991. The Cajon Valley, in *Inland Southern California: the last 70 million years*, M.O. Woodburne, R.E. Reynolds, and D.P. Whistler, eds. Redlands, San Bernardino County Museum Special Publication 38(3&4), p. 41-43.

Please do not hesitate to contact us with any further questions you may have.

Sincerely,



Eric Scott, Curator of Paleontology  
Division of Geological Sciences  
San Bernardino County Museum

PALEONTOLOGICAL RESOURCE  
ASSESSMENT

MORENO HIGHLANDS FAULT INVESTIGATION

CITY OF MORENO VALLEY

RIVERSIDE COUNTY, CALIFORNIA

LSA

July 16, 2004

**PALEONTOLOGICAL RESOURCE  
ASSESSMENT**

**MORENO HIGHLANDS FAULT INVESTIGATION**

**CITY OF MORENO VALLEY**

**RIVERSIDE COUNTY, CALIFORNIA**

Prepared for:

Leighton and Associates  
41715 Enterprise Circle North, Suite 103  
Temecula, California 92590-5626

Prepared by:

LSA Associates, Inc.  
1650 Spruce Street, Suite 500  
Riverside, California 92507  
(909) 781-9310

LSA Project No. LAA430

**LSA**

July 16, 2004

## TABLE OF CONTENTS

MANAGEMENT SUMMARY .....	1
INTRODUCTION .....	2
PROJECT DESCRIPTION .....	2
PURPOSE OF INVESTIGATION .....	2
SETTING .....	2
GEOLOGICAL SETTING .....	2
PALEONTOLOGICAL SETTING .....	4
PERSONNEL .....	4
METHODS .....	4
RESULTS .....	4
LITERATURE REVIEW .....	4
STRATIGRAPHIC SUMMARY .....	6
FIELD INSPECTION .....	6
LABORATORY TESTS .....	7
SUMMARY .....	7
REFERENCES .....	8
<b>FIGURES</b>	
Figure 1: Regional and Project Location .....	3

## MANAGEMENT SUMMARY

LSA Associates, Inc. (LSA) was retained by Leighton and Associates to review paleontological discoveries from the Moreno Highlands parcel under consideration for development in Moreno Valley, Riverside County, California. Paleontological resources had been located during geotechnical investigations by Leighton and Associates. The purpose of the investigation was to place the fossils into a paleontological context that would shed light on the time of their deposition and the age of the strata in which they were found.

A literature review for the property was followed by a field inspection of geotechnical exploration trenches on the parcel. The literature review determined that Pleistocene sediments to the south and southeast contain fossil localities at shallow depth. These localities contain latest Pleistocene Rancholabrean Land Mammal Age vertebrate fossils. Dated charcoal and volcanic ash indicate the sediments between five and ten feet below the surface on the eastern Perris block are between 10,000 and 40,000 years old.

The fossil rib found 17 feet deep in the Moreno Highlands geotechnical trenches is larger than domestic *Bos* sp. and compares favorably with the rib of *Bison* sp. Tests suggest that it is not Holocene in age. *Bison* sp. is the indicator species for the Rancholabrean Land Mammal Age of North America (150,000–10,000 years before present). The depth of the fossil, the potential for it to be *Bison* sp., and the overlying ten feet of silts with modest soil development, together suggest that this fossil fits in the framework of Pleistocene age sediments below depths of five feet on the eastern half of the Perris block.

## INTRODUCTION

LSA Associates, Inc. (LSA) was retained by Leighton and Associates to evaluate the significance of a paleontological resource find on the Highlands parcel in Moreno Valley, Riverside County, California. The geotechnical investigation on the project involved excavation of trenches up to 24 feet deep to obtain subsurface data. The paleontological resource, a fossil rib of a large mammal, was found during trench excavation.

## PROJECT DESCRIPTION

The Highlands parcel in Moreno Valley is located on the south side State Route 60, east of Redlands Boulevard and west of Gilman Springs Road, in eastern Moreno Valley, Riverside County, California. The project location is illustrated in Figure 1. The parcel is shown on the *Sunnymead* and *El Casco, California* 7.5-minute USGS quadrangle map (USGS 1967). Access to geotechnical trenches is from the intersection of Cottonwood Avenue and Redlands Boulevard.

## PURPOSE OF INVESTIGATION

Paleontological resources consisting of a fossil rib, burrows, and charcoal were located during excavation of geotechnical trenches on the Highlands parcel. Mr. Matthew Clarke of Leighton and Associates requested basic tests and a report that would relate these specimens to the regional Pleistocene stratigraphy of the eastern Perris block.

## SETTING

### Geological Setting

The Highlands parcel is located in the Peninsular Range geologic province of California that encompasses western Riverside County. It sits near the eastern margin of the Perris block (Kenney 1999). Crystalline rocks in Moreno Valley include late Jurassic and Cretaceous granitic rocks of the southern California batholith. These resistant rocks weather to form gray- or tan-colored, boulder-covered conical buttes and hills. The crystalline rocks in Moreno Valley are covered by Pleistocene sediments that in turn are covered by a thin horizon of Holocene soils and recent stream sediments in shallow channels (Rogers 1965).

Pedogenic carbonate (caliche or hardpan), a depositional product associated with the Holocene soils, invades the underlying Pleistocene sediments. The late Pleistocene age of the lacustrine and fluvial sediments on the eastern Perris block has been determined by the presence of large Ice Age mammal fossils such as horse, bison, mastodon and mammoth, and giant ground sloth. The presence of bison from the Diamond Valley Reservoir excavation indicates that the period of deposition was during the last 150,000 years (the Rancholabrean Land Mammal Age; Springer and others 1998). Similar fossils have been recovered from excavations at Lake Skinner, French Valley and Menifee Valley (Reynolds and Reynolds 1991; Reynolds 2001, 2002a,b, 2003, 2004a).

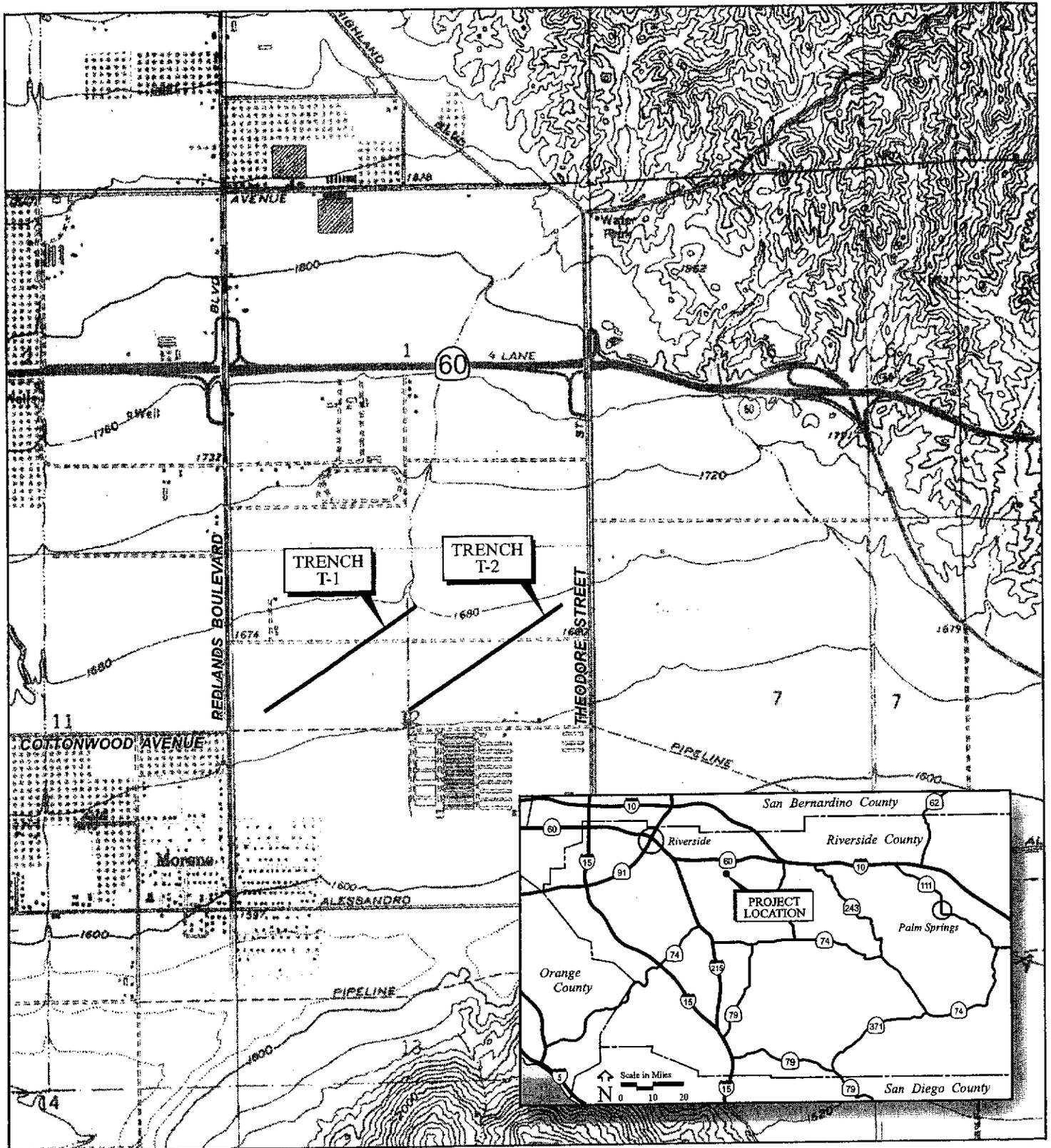
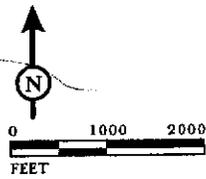


FIGURE 1

LSA



SOURCE: USGS 7.5' QUAD - EL CASCO, 1979 AND SUNNYMEAD, 1980

R:\LAA430\Graphics\Paleo\location.cdr (5/28/04)

Moreno Highlands  
Paleontological Resource Assessment  
Regional and Project Location

## Paleontological Setting

An Ice Age horse skull is known from Lake Skinner and more than 1,700 discrete paleontological resource localities are known from excavation of the Diamond Valley Reservoir 7 miles to the northeast (Springer and others 1999). These localities have produced over 70 late Pleistocene plant and animal taxa. The high potential for near-surface Pleistocene fossils from Moreno Valley, north across the Perris Plain, has been noted (Reynolds and Reynolds 1991) and Ice Age horse, camel, and deer have been recovered from the nearby projects (Reynolds 2001 2002a,b) in French Valley and Menifee Valley. The discovery of the Rancholabrean indicator fossil *Bison* sp. from southern Menifee Valley (Reynolds 2004a) supports synchronous deposition of late Pleistocene sediments throughout the eastern Perris block.

Vertebrate fossils from the Elsinore trough to the south have been used to determine the Pliocene age of the Temecula Arkose and the unnamed sandstone, and the Pleistocene age of the Pauba Formation (Mann 1955; Kennedy 1977; Reynolds and others 1991; Reynolds and Reynolds 1993). Large fossil mammals known from the area include horse, camel, sloth, and mammoth. A list of 67 taxa including large and small fossil species has been presented in several summaries (Golz and others 1977; Reynolds and others 1991; Reynolds and Reynolds 1991, 1993).

## PERSONNEL

The initial field inspection, basic lab tests, literature review, and report writing were provided by Robert Reynolds. Mr. Reynolds is the paleontological program manager at LSA's Riverside office, a research associate of the Los Angeles County Museum, and former Curator of Earth Sciences at the San Bernardino County Museum. He has 23 years of experience with paleontologic salvage programs and 37 years of research experience in collecting biostratigraphic specimens from sediments in southern California and Nevada.

## METHODS

The initial field inspection and examination of the specimens was conducted in March 2004. The literature review was conducted in April 2004, using available references to identify sedimentary formations with paleontological resource sensitivity and fossil localities within the vicinity of the Highlands parcel in Moreno Valley.

## RESULTS

### Literature Review

The Perris block extends northwest to the southern foot of the San Gabriel Mountains and southeast to the vicinity of Bachelor Mountain and Poly Butte. It is bounded on the southwest by the Elsinore fault zone, and on the northeast by the San Jacinto fault (Morton 1977). Southwest of and paralleling the San Jacinto fault is the Casa Loma fault, and the Highlands parcel under study by Leighton and Associates may straddle the northward projected trace of that fault (Rogers 1965). A "pre-Miocene" erosional surface referred to as the "Perris Erosion Surface" (Rogers 1965) was developed on the Perris block and appears to dip eastward until buried by Quaternary alluvium east of Interstate 15 (I-15). The surficial

alluvium has been mapped as Qal, and referred to as "Recent" (Rogers 1965). However, the sediments underlying this recent surface veneer of alluvium appear to be much older. The depth of this sedimentary sequence to crystalline basement rock in the eastern Moreno Valley area is reportedly 6,500 to 8,200 feet (Morton 1972). Sedimentary exposures in the Elsinore fault zone at the south end of the Perris block show an excellent sequence of sedimentary deposition and provide a time-stratigraphic framework that can be applied to the sediments at depth on the eastern Perris block.

In the Elsinore fault zone, the Temecula Arkose and the unnamed sandstone (Mann 1955; Kennedy 1977) contain vertebrate fossils that are as old as 4 Ma (Golz and others 1977; Reynolds and others 1990, 1991; Reynolds and Reynolds 1993). The Bishop Ash (0.758 Ma, Kennedy 1977) occurs at Chaney Hill stratigraphically high in the unnamed sandstone, suggesting that the sediments range in age from less than 1 to more than 4 Ma. More than 350 fossil localities recorded from the Pauba Formation contain late Pleistocene vertebrate fossils (Reynolds and Reynolds 1990a, 1990b; Reynolds and others 1991), but do not contain *Bison* sp., the Rancholabrean Land Mammal Age (LMA) indicator taxon. This suggests that the Pauba Formation ranges in age from at least 0.5 Ma to 0.2 Ma.

In the southern Perris block, northeast of Murrieta and including French, Paloma and Menifee Valleys, Kennedy (1977) describes "older alluvium" that sits on granitic and sedimentary rocks above approximately 1,300 feet of elevation. These sediments contain a diverse fauna of vertebrate animals of latest Pleistocene Rancholabrean LMA, including *Bison* sp. (Reynolds 2004a), the late Pleistocene indicator species. Additionally, the fauna contains amphibians found in the greenish-gray silty sands that are interpreted to have been deposited in ponds or marshlands (Reynolds 2001, 2002a). Gopher, woodrats, and cottontail rabbit would have inhabited the brush and grass-covered soils that surrounded the marshlands.

The review of literature indicated that an Ice Age horse skull was recovered from excavations at Lake Skinner and fossil horse, camel, mammoth, and deer were recovered in French Valley and in Menifee Valley (Reynolds 2002a,b, 2003). The fossils in French Valley, Menifee Valley (Reynolds 2003, 2004a), and Paloma Valley (Reynolds 2003, 2004a) were all recovered between two and five feet below the surface.

In the central portion of the Perris block, the Lakeview Hot Springs site has produced a complex fauna including the saber cat, *Smilodon*, in association with mammoth and other large and small mammals, reptiles, and gastropods, as well as wood and seeds. This fauna from the Perris block indicates that terminal Pleistocene time (10,000 ybp) occurs as close to the surface as 15 feet (Reynolds and Reynolds 1991). Slow rates of deposition and shallow depths to Pleistocene and Pliocene sediments and fossils is also indicated by the presence of the Nomlaki Ash at a depth of 20 feet in excavations at Romoland (Morton, p. c. 2004). This early Pliocene Ash has been dated at 4.5 million years. Near the Highlands parcel in eastern Moreno Valley, charcoal from geotechnical trenches at a depth of eight feet has been dated by the accelerator mass spectrometer (AMS) method at  $8,340 \pm 110$  years (Butelo and Meeker 1993).

More than 1,700 paleontological resource localities are known from excavation of the Diamond Valley Reservoir (Springer and Scott 1994). The late Pleistocene vertebrate fossils from this site include bison, a very large mastodon, mammoth, giant ground sloth, horse, deer, and coyote, along with small mammals such as cottontail rabbit, gopher, deer mice, meadow mice, and kangaroo rats. Like the French Valley sites, the presence of pond turtle, freshwater snails, and lakeshore plants suggest a lake shore or

marshland environment of deposition (Springer and others 1999). Associated plant remains include ponderosa pine and several species of manzanita, suggesting that a forest-chaparral mosaic covered the nearby slopes. This very complete Pleistocene fauna from the Perris block also indicates that latest Pleistocene sediments occur less than 15 feet below the present surface.

The potential for near-surface late Pleistocene fossils from the eastern Perris block west to the Chino Hills has been noted (Reynolds and Reynolds 1991), and this five- to ten-foot depth of occurrence of Pleistocene fossils is consistent with those elsewhere in the northern Peninsular Range Province near Riverside, Fontana, Rancho Cucamonga, and in the Pomona Valley near Chino.

A saber cat, *Smilodon* was reported by Ritner Sayles near Declezville, west of San Bernardino on the north side of the Jurupa Hills (SBCM 5-1.11). The specimen was recovered from a pipeline trench approximately 5 feet below surface elevation 1,000 feet. In the eastern Pomona Valley, along I-15, Pleistocene vertebrates occur at the site of Champagne (SBCM 5.1.8), where a mammoth (*Mammuthus*) was found in a borrow pit 5 feet below surface elevation 875 feet. Several miles to the northeast, a mastodon was located in South Fontana. Excavations at Base Line Road and Etiwanda Avenue in Rancho Cucamonga have recently produced fossil rodents from yellow loam at a depth of three feet (Reynolds 2004b).

In Chino, east of State Route 71, the Carbon Canyon Wastewater Facility, SBCM 5.1.9 and 5.1.10, produced *Glossotherium* and *Camelops* between depths of 11 to 15 feet below a surface elevation of 590 feet. At the Los Serranos Creek site in the eastern Chino Hills (Puente Hills) (SBCM 1.116.1) is a Pleistocene terrace deposit filling a canyon. These deposits produced *Bison* sp. cf. *B. antiquus*, *Equus* sp., and *Odocoileus* sp. at a depth of 6 feet below surface elevation 760 feet.

### Stratigraphic Summary

The occurrence of late Pleistocene fossil vertebrates on the Perris block is within 2 through 15 feet below the surface. Dates on charcoal and volcanic ash suggest that sediments from 10 to 20 feet below the surface may range in age from 10,000 years to as great as four million years. The near-surface occurrence of Pleistocene age sediments on the Perris block is consistent with similar occurrences of Pleistocene faunas between 3 and 10 feet below surface in Riverside, Fontana, Rancho Cucamonga, and Chino areas within the northern margin of the Peninsular Range Province. The fossil rib from seventeen feet of depth at the Highlands parcel in eastern Moreno Valley is consistent with a regional framework where late Pleistocene deposits and fossils occur at depth greater than five feet.

### Field Inspection

Geotechnical Trench T-1 was located west of Trench T-2, and both were excavated to a depth of approximately 25 feet. The parallel trenches trended northeast, and the surface elevation from T-1 to T-2 on the east dropped almost 10 feet. Field inspection of the geotechnical trenches on the Highlands parcel identified a three-foot veneer of brown Holocene silts (Unit A, Clarke, p. c., 2004) overlying a sequence of tan Pleistocene silts and soils greater than 20 feet thick. Despite the change in surface elevation, lamellar sands (Unit Qalo2, Clarke, p. c., 2004) were encountered at 18 to 19 feet in T-1 and at 17 to 20 feet in T-2, suggesting that many of the mappable units could be traced laterally with only minor, basinward, drops in elevation. Both trenches contained three silty paleosols that appeared massive

and unbedded due to bioturbation. The lower two paleosols (B and C) were at depths of approximately 15 and 20 feet, respectively, and bracketed the lamellar sands and coarse sand channels. These paleosols are cemented by diffuse calcium carbonate, and carbonate filled root casts are common. Rodent burrows are rare, but burrows for pupa of ground-dwelling insects (solitary bees and yellowjackets; Mangin 2004; Ramel 2004; Batra 1984) were common. These factors—bioturbation, burrows, and root casts—suggest stable surfaces and slow accumulation of aeolian silt to form soils. The diffuse calcium carbonate cement suggests individual antiquity of each horizon, and the superposition of three carbonate cemented soils suggests greater antiquity. The fossil bone was recovered from a gravel channel between paleosols B and C in Trench T-1.

### Laboratory Tests

The fossil rib recovered from 17 feet deep in Trench T-1 was identified by the process of comparative analysis. It was compared with comparable ribs of domestic cow, fossil horse, fossil bison, and camel. As in the other artiodactyls, the fossil rib was lenticular in cross-section, and pinched at both anterior and posterior margins. The specimen was distinct from the distal portion of fossil horses, which, in cross-section, are shaped like slightly asymmetrical tear drops, and from camels, whose cross-section looks like a flattened rectangle. The Moreno specimen is larger than domestic cow, and size, curvature, and cross-section morphology compare well to that of fossil *Bison* sp. from northeastern Murrieta (Reynolds 2004a).

A basic test was conducted to determine if collagen was present in the bone. A fragment was burned with the oxidizing portion of a flame. If the act of burning caused the smoke to smell offensive, like burning hair or organic material, organic collagen was still present, and the specimen was relatively recent. Smoke from burning the specimen from the Highlands parcel did not yield such an odor, showing that enough time had passed for organic material to be leached from the bone by groundwater.

### SUMMARY

The specimen of rib recovered by geotechnical trenching on the Highlands parcel in eastern Moreno Valley came from a depth of 17 feet below the surface, a depth that is consistent with many other late Pleistocene occurrences of fossil and extinct vertebrates on the Perris block. The stratigraphic occurrence of the specimen below two calcium carbonate cemented paleosols suggests antiquity, as does the lack of collagen, which requires lengthy periods of leaching to be removed from bone. Additionally, the specimen of rib compares well morphologically with that of fossil *Bison* sp. from elsewhere on the Perris block in late Pleistocene alluvium. LSA concludes that strata 17 feet below surface at this site were deposited in late Pleistocene times.

## REFERENCES

- Bata, S. W. T., 1984. Solitary Bees. *Scientific American* 250:120-127.
- Butelo, J. J., and A. O. Meeker, 1993. Geotechnical Investigation of Faulting and Seismicity: Hemet / San Jacinto regional Water reclamation Facility, riverside County, California. For eastern Municipal Water District, by Schaefer Dixon Associates (30-017).
- Clarke, Matthew, 2004. Personal communication to author regarding Moreno Highlands Geotechnical Trenches.
- Golz, D. J., G. T. Jefferson, and M. P. Kennedy, 1977. Late Pleistocene Vertebrate fossils from the Elsinore Fault Zone, California. *J. Paleo.* 51(4):864-866.
- Kennedy, M. P., 1977. Recency and Character of Faulting along the Elsinore Fault Zone in Southern Riverside County, California. CDMG Special Report 131, 12pp.
- Kenney, M. D., 1999. *Emplacement, offset history, and recent uplift of basement within the San Andreas Fault System, northeastern San Gabriel Mountains, California* [Ph. D. Thesis]: University of Oregon, 279 p.
- Mangin, K., 2004. Cactus bees. <http://desertdiscovery.arizona.edu/solitary.html> (5/19/2004).
- Mann, J. F., 1955. Geology of a portion of the Elsinore fault zone, California: CDMG Special Report 43, 22p.
- Martin, Robert A., 1993. Late Pliocene and Pleistocene Cotton Rats in the southwestern United States. San Bernardino County Museum Association Special Publication 93-1, p. 88-89.
- Morton, D. M., 1972. Geology of the Lakeview-Perris Quadrangles, Riverside County, California, CDMG, Map Sheet 19., Scale 1:24,000.
- Morton, D. M., 1977. Surface Deformation in Part of the San Jacinto Valley, Southern California, in *Journal of Research, U. S. geological Survey*, Vol. 5, No. 1, Jan-Feb. 1977, p. 117-124.
- Morton, D. M., 2004. Personal communication to author regarding the depth of Nomlaki tuff in Romoland.
- Ramel, G., 2004. An introduction to the solitary bees (Hymenoptera, Apoidea). <http://www.earthlife.net/insects/solbees.html> (5/19/2004).
- Reynolds, R. E., 2001. Paleontological Resources Monitoring Program; Beazer Homes Butterfield Tract. LSA Associates, Inc. for Beazer Homes, 10 p.
- Reynolds, R.E., 2002a. Paleontological Resources Monitoring Program, Beazer Homes Butterfield III Tract. LSA Associates, Inc. for Beazer Homes, 11 p.

- Reynolds, R.E., 2002b. Paleontological Resources Monitoring Program, Beazer Homes Cliff Parcel, French Valley. LSA Associates, Inc. for Beazer Homes, 11 p.
- Reynolds, R.E., 2003. Paleontological Resources Monitoring Program, Beazer Homes Menifee Greens, Menifee Valley. LSA Associates, Inc. for Beazer Homes, 10 p.
- Reynolds, R.E., 2004a. Paleontological Resources Monitoring Program, Centex Homes Bella Vista Project, Murrieta. LSA Associates, Inc. for Centex Homes, 11 p.
- Reynolds, R.E., 2004b. Paleontological Resources Monitoring Program, KB Home Tracts 16454 & 16455, Rancho Cucamonga. LSA Associates, Inc. for KB Home, 11 p.
- Reynolds, R.E., L.P. Fay, and R. L. Reynolds, 1990. California Oaks Road: An early-late Irvingtonian Land Mammal Age fauna from Murrieta, Riverside County, California. Abstracts of Papers presented at the Mojave Desert Quaternary Research Center Fourth Annual Symposium, J. Reynolds, ed. Redlands, San Bernardino County Museum Association: 35.
- Reynolds, R. E., R. L. Reynolds, and A. F. Pajak III, 1991.  
Blancan, Irvingtonian and Rancholabrean(?) Land Mammal Age Faunas from Western Riverside County, California: San Bernardino County Museum Association Quarterly, v. 39, p. 37-40.
- Reynolds, R.E. and R. L. Reynolds, 1990a. Irvingtonian? faunas from the Pauba Formation, Temecula, Riverside County, California. Abstracts of Proceedings, 1990 Mojave Desert Quaternary Research Symposium, Redlands, J. Reynolds, ed. Redlands, San Bernardino County Museum: 37.
- Reynolds, R.E. and R. L. Reynolds, 1990b. A new, late Blancan faunal assemblage from Murrieta, Riverside County, California. Abstracts of Papers presented at the Mojave Desert Quaternary Research Center Fourth Annual Symposium, J. Reynolds, ed. Redlands, San Bernardino County Museum Association: 34.
- Reynolds, R. E., and R. L. Reynolds, 1991. The Pleistocene Beneath our Feet: Near-surface Pleistocene Fossils from Inland Southern California Basins. San Bernardino County Museum Association Quarterly V. 38(3 & 4), p. 41-43.
- Reynolds, R. E., and R. L. Reynolds, 1993. Rodents and Rabbits from the Temecula Arkose: San Bernardino County Museum Association Special Publication 93-1, p. 98-100.
- Reynolds, R. E., and R. L. Reynolds, 1993. Rodents and Rabbits from the Temecula Arkose: San Bernardino County Museum Association Special Publication 93-1, p. 98-100.
- Rogers, T. H., 1965. Geologic Map of California, Santa Ana Sheet, CDMG, scale 1:250,000..
- Springer, Kathleen, E. Scott, L. K. Murray, and W. G. Spaulding, 1998. Partial Skeleton of a Large Individual of *Mammuth americanum* from the Domenigoni Valley, California. Abstract, Jour. Vert. Paleo. V. 19(3), p.77A.

Springer, Kathleen, E. Scott, C. Sagebiel, K. Scott, 1999. A late Pleistocene Lake-edge Vertebrate Assemblage from the Diamond Valley, Riverside County, California. Abstract, Jour. Vert. Paleo. V. 19(3), p.77A.

United States Geological Survey (U. S. Department of the Interior), 1967. *El Casco* 7.5-minute topographic quadrangle map. Photorevised 1979.

United States Geological Survey (U. S. Department of the Interior), 1967. *Sunnymead* 7.5-minute topographic quadrangle map. Photorevised 1980.

## **Appendix C: Personnel Qualifications**



## **Michael H. Dice, MA, RPA**

### **Senior Cultural Resource Specialist/Project Manager**

#### **Overview**

- 30+ years experience in Cultural Resource Management
- Master's degree, Anthropology – Arizona State University, Tempe. 1993
- Bachelor's degree, Anthropology – Washington State University, Pullman. 1986
- Registered Professional Archaeologist (RPA 2000)
- Certified Archaeologist in Riverside County (#101), County of Orange and the County of San Diego.

**Michael H. Dice, MA, RPA**, Senior Cultural Resource Specialist and Project Manager, has more than 30 years experience performing record searches, archaeological surveys, archaeological site testing projects, and data collection projects on private and public lands in the Southwestern United States. He has authored or co-authored more than 200 Cultural Resources Inventory Reports required for CEQA and/or NEPA level documents. His management experience within CRM involves producing proposals, hiring and managing field and office cultural resource personnel, writing draft and final reports to various Clients and Lead Agencies, and managing costs effectively. Michael has extensive experience with California Native American Tribes, having provided direct consultation and coordination with the Agua Caliente Band, Gabrielino tribal officials, Juaneño tribal officials, the Morongo Band, the Serrano Band, and the Temecula Band of Luiseno Indians (Pechanga).

Michael's statement of experience is divided into three categories: Prehistoric and Historic Archaeological projects, Historic-era Assessment projects and Environmental Compliance project management. Key projects are listed.

---

#### **Experience, Prehistoric and Historic Archaeology**

##### **Cultural Resource Assessment of The Las Montanas Marketplace Project, City of Indio, CA. M-To Management, Inc., Los Alamitos, CA. (2010-2011)**

Mr. Dice performed an archaeological survey of 95 acres in the northern section of the City of Indio in support of an EIR for a new private developmental project. The project area was believed, through museum research, to contain three prehistoric archaeological sites. MBA cultural resource staff provided the proponent with an exploratory testing study that will effectively clear the project of specific mitigation measures for the sites in question. Because one of the sites was determined significant within an adjacent project area, that sites had to be cleared from the project. Work was undertaken before the City accepted the Initial Study. Consultations with local Tribal Authorities took place.

##### **Cultural Resource Assessment of The Salton Sea Solar Project, Riverside County, CA. Reese-Chambers Systems Consultants Inc., Somis, CA. (2009-2010)**

Mr. Dice performed an archaeological survey and protohistoric ceramic scatter assessment on approximately 480 acres just north of the Salton Sea in the County of Riverside. The purpose of the study was to evaluate seemingly vacant property as part of an analysis for potential impacts during construction of a new solar panel complex. Two sites were identified and will have to be Phase III collected prior to construction. Consultations with local Tribal Authorities took place.

##### **Phase 1 Cultural Resource Assessment of the Badlands Landfill and Lamb Canyon Landfill Expansion Projects, Riverside County, California. Riverside County Waste Management Department (2010)**

Mr. Dice performed an archaeological survey on a total of 1600 acres adjacent to the existing Badlands Landfill and the Lamb Canyon Landfill in the County of Riverside. The purpose of the study was to evaluate adjacent property as part of an analysis for potential impacts during expansion of the Landfills.

Several new resources were detected and recorded during the study. While RCWMD will not construct for several decades, the sites will be avoided when land development takes place in the site areas. Consultations with local Tribal Authorities took place.

**Cultural Resource Assessment of the Van Norman Dam and Chatsworth Dam Complexes. Los Angeles Department of Water and Power (2008-9)**

Mr. Dice performed an archaeological survey and historic landscape assessment of the Van Norman Dam complex plus the Chatsworth Dam in western Los Angeles County for the Los Angeles Department of Water and Power. For the first time, the history of the complex was detailed and Program-level recommendations for historic evaluations of these significant engineering complexes were made. LADWP plans to remove the upper Van Norman Dam and replace it with a newly designed covered Dam in order to reduce water supply pollutants. Soils on the floor of the Chatsworth Dam will be used for fill. The project was written under CEQA Guidelines because LADWP will not be using federal monies. Future work will involve Section 106 because certain permits will be required when the project reaches a Project-level analysis.

**Cultural Resource Assessment, Phase II Historical evaluation and Phase IV Monitoring for the Sketchers Industrial Park Project, City of Moreno Valley, California. Highland-Fairview Operating Partners (2004-2011)**

Mr. Dice undertook a Phase 1 survey of the Sketchers property in addition to other properties controlled by the Client, headed a team of cultural professionals performing historic building evaluations, then headed up a field crew of monitors during the earth-moving phase of complex construction in 2010. Wholly seen through by Mr. Dice, several historic era buildings were examined. Consultations with local Tribal Authorities took place.

**Phase 2 Testing Evaluation of Historic Site CA-SBR-11567H, the Empire-Fontana Project (ACOE #200301127), City of Fontana, California (2005)**

Mr. Dice undertook an evaluation of a historic archaeological site for the City of Fontana in order to gain permits for developmental impact from the Army Corps of Engineers. Several abandoned historic foundations, trash dumps, remnant buildings and a possible prehistoric isolated within the historic property were examined and quantified. The report was submitted and accepted by Mr. Steve Dibble of the Army Corps LA District.

**Phase 2 Testing and Phase 3 Excavation of the Loring Ranch Project, Rubidoux-Jurupa Area, County of Riverside, California. Mastercraft Homes, Inc. (2004)**

Mr. Dice undertook an evaluation of two historic archaeological sites on vacant land located west of the Santa Ana River and southeast of the Flabob Airport. Cultural Resource Staff determined that two mid-1800's trash deposits were located on the property and tested the sites for significance. Because the sites were felt to reflect a period in history when Chinese immigrants were forced into limited economic means, the sites were determined to represent "truck farms" developed between 1870 and 1900.

---

**Experience, Historic Building and Landscape Assessments**

**Section 106 Cultural Resource Assessment and Technical Evaluation of the McCoy and Garibaldi Laterals, Merced Irrigation District. Fremming, Parson & Pecchenino, Consulting Civil Engineers, Merced, CA. (2010)**

Mr. Dice performed an archaeological survey and historic landscape assessment of two Laterals within the Merced Irrigation District in support of the District's plans to use federal funding (Bureau of Reclamation) to repair segments of the Laterals. Mr. Dice determined that the MID should be considered a potential Historic District for listing on the National Register. Modifications to the Laterals as a result of the undertaking will have No Adverse Effect to the potential Historic District that is the MID. Consultations with local Tribal Authorities took place.

**Three Historic Assessments of the Southside Park, the Del Paso Regional Park and the Chorley Park. City of Sacramento, California (2010)**

Under contract with the City of Sacramento Parks and Recreation Department, Mr. Dice produced three technical studies in order to fulfill Section 106 requirements. The Department requested these studies because the Department requires Recreation Trails and Land and Water Conservation funding programs. Each park exhibited a landscape more than 50 years old, and certain older internal structures, that allowed each Park to be considered potentially eligible for the National Register at the local level of analysis. We determined that the Southside Park and the Del Paso Park are potentially eligible for the NR but that the specific projects would have no impact on their eligibility qualities. The Chorley Park was determined not significant. Consultations with local Tribal Authorities took place.

**Historic Building Evaluation of the San Geronio Inn, City of Banning, CA. (2010)**

Mr. Dice evaluated a historic-era structure originally built in 1884 and rebuilt in 1930 for significance at the State (CEQA) level of analysis. The City proposed to demolish the structure and the report supported an EIR written by Ernest Perea of Romo Planning Group Inc., Covina. Mr. Dice performed a historic background assessment and developed a thematic context with which the structure could be evaluated against. The results of this research showed that the building did not qualify for listed on the National or State Register, but that the location of the Inn was considered locally significant. This was not a popular decision, especially with Steve Lech, but the research showed that the results were justified. After reading the report, the City chose to attempt to preserve Google-styled signage off-site.

**Historic Building Evaluation of the F&M Artesia Branch Bank, City of Long Beach, CA. (2009)**

Mr. Dice evaluated a structure built in 1961 for significance at the State (CEQA) and City of Long Beach Historic Property level of analysis. The City had proposed to demolish the structure complex and the technical report supports an IS/MND written in City Format for the proponent, Jeffrey Tartaglino of Palm Desert Development. Mr. Dice performed a historic background assessment and developed a thematic context with which the structure could be evaluated against. Because the structure was found significant at the local level of analysis, the City required a photographic assay of the building; this was incorporated into the finished document.

**Historic Building Evaluation of the Premiere Lanes Bowling Alley, City of Santa Fe Springs, CA. (2009)**

Mr. Dice evaluated a structure built in 1960-61 for significance at the State (CEQA) level of analysis. The City had proposed to demolish the structure complex and our technical report supported an EIR written by Sandra Bauer of Bauer Consulting Inc., Irvine. Mr. Dice performed a historic background assessment and developed a thematic context with which the structure could be evaluated against. The City will allow the removal of the building through demolition but save Google-styled signage associated with the structure.

**Historic Building Survey, Washington Boulevard and Consolidated Redevelopment Projects, City of Santa Fe Springs, CA.**

Mr. Dice conducted a historic building survey for two redevelopment project areas located in the City of Santa Fe Springs, County of Los Angeles. The Washington Boulevard Redevelopment project area is located in the City of Santa Fe Springs' side of Washington Boulevard, and is bisected by Sorensen Avenue. The purpose of the study was to identify those properties more than 45 years old that may be demolished during planned Redevelopment in the next 25 years. The Consolidated Redevelopment Project Area is located near Gateway Plaza at the intersection of Telegraph Road and Painter Avenue west of Carmenita Road. A program-level historic context was developed and existing properties preliminarily assessed against that historic context. The results showed that more 140 individual properties more than 45 years old were located in and near the Redevelopment project area. The evaluation of the historic context and existing properties will allow

the City, for the first time, to recommend that the significance of old buildings be considered when undertaking redevelopment in the City limits.

**Historic Resource Assessment and Phase II Recommendation, The Alfa Leisure Property, City of Chino, CA.**

This study was a CEQA and NEPA-compliant assessment of the old Chino Sugar Mill, including an historic building survey and photographic assay. The Mill building housed one of the first commercial ventures in the City, opening in the 1880's. The results of the study showed that the structure was a locally significant structure but could not be saved within a reasonable monetary expenditure as the structure was completely unstable from an earthquake standpoint. Mr. Dice recommended that a photographic assay and additional historic analysis be undertaken before the structure would be allowed to be demolished.

---

**Experience, Environmental Compliance Management**

**Compliance work for the Bakersfield State Vehicular Recreation Area (SVRA), County of Kern, California. City of Bakersfield and County of Kern, California. (2005-2006)**

Mr. Dice led a cultural resource survey of a 10,000+ acre proposed park project on private ranch land in the County of Kern north of the City of Bakersfield. Work was done in support of an EIR/EA written to convince the State of California to purchase the property for use as an off-road vehicle park. Mr. Dice wrote the budget for the survey, hired and managed a field crew of 12+ persons, developed protocols for survey, managed the development of final DPR523 form sets for the document, then developed the cultural resource section of the Draft EIR in support of the project. Mr. Dice directed consultations with local Tribal Authorities.

**Compliance work for the East Orange and Santiago Hills II Developmental Plan and Phase 3 Excavation of CA-ORA-556, City of Orange, California. The Irvine Company, Newport Beach, CA. (2003-6)**

Mr. Dice led a cultural resource survey of a 1,500-acre project area in the East Orange Annexation and Sphere of Influence zone in the Santiago Hills. He led a team that evaluated a series of historic and prehistoric sites for the project, recommending that one site be Phase 3 excavated. The excavation was led by Mr. Dice, with a field crew of 6-8 people. The site was found potentially not significant. A Phase 3 excavation report was written. In addition, Mr. Dice wrote a cultural resource section of an EIR in support of the project. Mr. Dice directed consultations with local Tribal Authorities.

---

**Professional Affiliations**

- Member, California Historical Society
- Member, National Trust for Historic Preservation
- Member, Registry of Professional Archaeologists



**Kenneth J. Lord, Ph.D., RPA**  
**Director, Natural/Cultural Resources**

**Overview**

**Dr. Lord** is Director of MBA's Natural and Cultural Resources Departments. Dr. Lord has over 30 years of professional experience in environmental consulting and cultural resources management including:

- Management of more than 100 professionals
- Management of large multidisciplinary environmental studies
- Management of large multistate/multidisciplinary environmental compliance monitoring projects
- Assignments in 13 states in the western U.S. and Puerto Rico
- Senior Scientist/Principal Investigator in the area of cultural resources in five states
- Completed over 10 EA/EIS projects and over 50 cultural resources projects

Dr. Lord's project experience includes oil and gas exploration and transmission; gravel, uranium and gypsum mining; fiber optic communication systems; forestry development and timber sales; water development and dam construction; housing and golf course development; port development; and military/government agency expansions.

---

**Professional Experience**

**TIMBER**

**Bureau of Indian Affairs, Navajo Area Office, Navajo Forest Archaeological Investigations.** Principal investigator/ project manager for timber sale archaeological surveys on the Navajo Indian Reservation in Arizona and New Mexico. Approximately 20,000 acres were examined during the project. Work entailed supervising both the aspects of the fieldwork and preparing the draft report. 1983

**BIA Navajo Area Office, Summit and Twin Butte Areas Timber Sales.** Field director for an archaeological survey of a 20,000-acre timber sale on the Navajo Indian Reservation in New Mexico and Arizona. 1983

**BIA Navajo Area Office, Piney Hill Timber Sale Area.** Project director for an archaeological survey of a 7,000-acre timber sale on the Navajo Indian Reservation in Arizona. 1983

**BIA Navajo Area Office, Canyon Rim Timber Sale Area.** Project director for an archaeological survey of a 5,000-acre timber sale on the Navajo Indian Reservation in Arizona. 1984

**BIA Navajo Area Office, Cultural Resources Overview of the Navajo Forest.** Project director for the preparation of a cultural resources overview for all lands within the Navajo Forest. This encompassed both a sample archeological survey and use of previous survey data collected from various sources.1984

**Santa Fe National Forest, Multiple Timber Sale Surveys.** Principal investigator for two timber sale surveys. Duties included assuring compliance with all Forest Service cultural resources guidelines and quality assurance of the reports. 1986

## OIL AND GAS

**Paiute Pipeline Company.** Project Manager for Environmental Report in support of a FERC application for **the 10-mile upgrade of Carson Lateral in the Carson City, Nevada area.** Project tasks included development of project description as well as managing all phases of the environmental report. This included the use of three subcontractors for portions of the report, including cultural resources documentation, NRHP eligibility determinations and Native American consultations. 1999-2000

**L.W. Reed Consultants, Inc./Pacific Pipeline System, Inc.** Project manager for preparation of cultural resources and paleontological documents for the construction of the Pacific Pipeline Project in southern California. Chief environmental inspector for the Pacific Pipeline Systems, Inc's 130-mile long oil pipeline through the Los Angeles and Kern County areas of California. In his capacity as chief environmental inspector he provided direct liaison between the construction/engineering aspects of the project as well as environmental issues. He managed a staff of up to 13 environmental inspectors and 10 Native American Monitors and was responsible for all reporting activities and for the development of any variances to state-mandated mitigation measures. Also prepared and taught environmental training programs for both staff and all project workers. 1996-1999

**California State Lands Commission/FERC, Whitney-Painter Canyon Lateral Project.** Project manager for an EA for construction of the Whitney-Painter Canyon Lateral to the Kern River Natural Gas Pipeline Project in southwest Wyoming. 1989

**California State Lands Commission/FERC, Mojave/Kern River/El Dorado/Transwestern/El Paso/WyCal Natural Gas Pipeline Projects.** Project manager for an EIR/EIS that encompassed over 3,000 miles of potential pipeline routing through portions of California and seven other western states. Managed all major efforts, including the biological, air quality, and cultural resource field survey programs. 1985-1991

## MITIGATION MONITORING

**Pacific Pipeline Systems, Inc.** Project manager and chief environmental inspector for mitigation compliance for construction of the 132-mile-long Pacific Pipeline in Kern and Los Angeles Counties, California. Project tasks included development of mitigation compliance procedures and manuals, development and implementation of environmental training program, selection, training and supervision of environmental inspectors (up to 10), preparation of all mitigation variances for submittal to lead agencies (California Public Utilities Commission and U.S. Forest Service). Also assisted in the development of the Cultural Resources Management Plan, Paleontological Management Plan and the Erosion Control, Revegetation, and Landscaping Plan. Main duties involved coordination between environmental, engineering, and construction staffs, as well as coordination with various state and federal agencies. 1996-1999

**California Public Utilities Commission/FERC, Pacific Gas Transmission Pipeline Expansion Mitigation Compliance Project.** Project manager for mitigation compliance for construction of the 1,100-mile-long PGT/PG&E Pipeline Expansion Project in Idaho, Washington, Oregon, and California. The project, conducted over two construction seasons, involved coordination between environmental, engineering, and construction staffs, as well as coordination with various state and federal agencies. 1991-1993

**California State Lands Commission/FERC, Mojave/Kern River Pipeline Project Mitigation Compliance Project.** Project manager for mitigation compliance of construction of the Mojave and Kern River Pipelines through Arizona and California, and Wyoming, Utah, Nevada, and California, respectively. 1990-1991

## **COMMUNICATIONS**

**AT&T Communications, Fiber Communications Optic Route from Albuquerque to the Arizona/New Mexico State Line.** Principal investigator for a large cultural resources program associated with the installation of over 300 miles of fiber optic cable. Project started with survey and extended through monitoring and testing. 1989

**AT&T Communications, EA for a Fiber Optics Communications Route for the Texas/New Mexico State Line to Tucumcari, New Mexico.** Project manager for an EA for a short fiber optic segment. The primary areas of study included cultural resources concerns along Old Route 66 and sensitive wildlife species. 1989

**AT&T Communications, Microwave Tower Site.** Project manager and archeologist for a series of microwave towers on Forest Service, BLM, and private lands. 1989

## **WATER PROJECTS**

**U.S. Corps of Engineers, Albuquerque District, Abiquiu Reservoir Archaeological Project.** Principal investigator for a large, multi-site archaeological investigation associated with expansion of a reservoir in New Mexico. Project entailed completing analyses of all project aspects, which entailed archaeological investigations at 34 sites. 1985-1987

**Bureau of Reclamation/Middle Rio Grande Conservancy District, Water Line Crossings in Bosque Farms, Valencia County, New Mexico.** Project manager/archeologist for a series of water crossings along the canal/drainage systems in the Albuquerque area. 1990

**Bureau of Reclamation, Salt Lake City Office, Ridges Basin Project.** Archeological crew chief for a 6,000-acre survey for a water development project in southwestern Colorado. 1980

## **MINING**

**Centex American Gypsum Company, EA for Zia Pueblo Lands.** Project manager/archeologist for a 800-acre acquisition into trust for gypsum mining near San Ysidro, New Mexico. 1988

**Anaconda Copper Company, Cibola National Forest.** Project archeologist for development of uranium exploration access in McKinley County, New Mexico..1979

### **Other Mining**

**Project manager/archeologist** for various highway department gravel quarry operations throughout New Mexico for J.W. Jones Construction, Universal Constructors, Twin Mountain Construction, and Longley Excavating. 1984-1990

## **GOVERNMENT PROJECTS**

**San Diego County Department of Parks and Recreation** – Cultural Resources Inventory for the Mt. Olympus Preserve Project near Pala, San Diego County California. Project Manager and Principal Investigator for 707 acre cultural resources inventory and recordation of 1 prehistoric rock art site and recordation of two mid-20th century historic sites. 2009

**San Diego County Department of Parks and Recreation** – Cultural Resources Inventory for Wilderness Gardens Preserve Project near Pala, San Diego County California. Project Manager and Principal Investigator

for 737 acre cultural resources inventory and recordation of 2 prehistoric sites and recordation of the Long-Boddy Ranch. 2009

**Rockwell International/Kirtland Air Force Base, Starfire Optical Range.** Project manager for the EA for the Air Force Weapons Lab. The project entailed completion of both the environmental documentation and the preparation of a cultural resources data recovery program. 1989-1990

**U.S. Corps of Engineers, Albuquerque District, Waste Isolation Pilot Project.** Project director of archaeological investigations necessary prior to construction of the WIIP, a low-level nuclear waste repository. Work consisted of excavating three archaeological sites, analyzing materials recovered, and completing the report. 1983-1984

**Bureau of Land Management, Roswell District, Abo Cultural Resources Survey Project.** Co-project director for archaeological investigations within natural gas fields in eastern New Mexico. The project objective was to determine areas of high and low densities of cultural resources to allow development of natural gas wells and gathering systems. 1981

**National Park Service, Vandenberg Air Force Base. Open-ended cultural resources services.** Project director responsible for all contractual aspects of a multi-year cultural resources project. 1991-1992

**Sandia National Laboratories at Kirtland Air Force Base.** Project manager for open ended cultural resources and biological studies services on KAFB. Cultural resources and biological studies were incorporated into EAs prepared by Sandia National Laboratories 1989-1991

**Lee Wilson Associates/Bureau of Land Management, Las Cruces District, McGregor Range Grazing Units EIS.** Project archeologist on a sample survey of the 250,000-acre Army/BLM joint use area and prepared cultural resources sections for the EIS. 1979

## **LAND DEVELOPMENT**

**Kona Road III Project Cultural Resources Survey, French Valley Area.** Project Manager for a Phase I cultural resources survey and paleontological review of a 4.65-acre property project located in the French Valley Area of unincorporated Riverside County, California, for John Laing Homes. 2006

**Newport Road Project Cultural Resources Assessment, Menifee Area.** Project Manager for a Phase I cultural resources assessment and paleontological records review for a project in the Menifee Area of the County of Riverside, California, for Granite Equities, LLC. 2006

**Taylor-Woodrow Ivy House Project Cultural Resources Assessment, Murrieta.** Project Manager for a Phase I cultural resources assessment and paleontological records review for a project located in Murrieta, Riverside County, California, for Taylor Woodrow Homes. 2006

**Lake Elsinore Property Cultural Resources Report, City of Lake Elsinore.** Project Manager for a Phase I cultural resources report and paleontological records review of 8 parcels totaling 49.57-acres for a project in the City of Lake Elsinore, Riverside County, California, for Dakota Development, LLC. 2006

**Cultural Resources Survey Report, San Jacinto.** Project Manager for a Phase I cultural resources survey report and paleontological records review for tentative tract 33862, a project located in San Jacinto, County of Riverside, California, for JD Pierce Company. 2006

**Pigeon Pass Property Cultural Resources Assessment, Moreno Valley.** Project Manager for a Phase I cultural resources assessment and paleontological records review of 37.8-acres for a project located in Moreno Valley, Riverside County, California, for Pacific Land Company. 2006

**Cultural Resources Assessment, French Valley. Project Manager for a Phase I cultural resources assessment and paleontological records review of Tract 34150, a project located in French Valley, County of Riverside, California, for Granite Equities, LLC. 2005**

**Cultural Resources Survey, Corona.** Project Manager for a Phase I cultural resources survey and paleontological records review for a project located in Corona, California, for Knowlton Communities. 2004

**Menifee Farms Project Cultural Resources Assessment, Menifee Valley.** Project Manager for a Phase I cultural resources assessment, Phase II archaeological test and paleontological records review of a 26.14-acre property for a project located in Menifee Valley, Riverside County, California for Granite Equities, LLC. 2004

**Temecula Lane 2 Property Cultural Resources Assessment, City of Temecula.** Project Manager for a Phase I cultural resources survey for a project located in the City of Temecula, Riverside County, California for DR Horton. 2007

**Ramona Expressway and Alessandro Avenue Project Cultural Resources Assessment, San Jacinto.** Project Manager for a Phase I cultural resources survey and paleontological records review for a project located in San Jacinto, Riverside County, California, for Mr. Cornell Kasbergen. 2006

**Palmdale Business Center Project Cultural Resources Assessment, City of Palmdale.** Project Manager for a Phase I cultural resources survey and paleontological records review for tentative tract 47193, a project located in the City of Palmdale, Los Angeles County, California for Palmdale Business Center, LP. 2006

**Victoria 316 Project Cultural Resources Assessment, Victorville.** Project Manager for a Phase I cultural resources survey and paleontological records review for tentative tract numbers 17341 and 17356, a project located in Victorville, San Bernardino County, California for Pulte Homes. 2005

**Van Daele Homes Victorville Acres Project Cultural Resources Survey, City of Victorville.** Project Manager for a Phase I cultural resources survey and paleontological records review for tentative tract 16847, a project located in the City of Victorville, San Bernardino County, California for Victorville Acres, LLC. 2004

**Van Daele Victorville Acres II Project Cultural Resources Assessment, City of Victorville.** Project Manager for a Phase I cultural resources assessment and paleontological records review for tentative tract 17063, a project located in Victorville, San Bernardino County, California for Victorville Acres II, LLC. 2004

**Van Daele Homes Foxfire Ranch Cultural Resource Survey, City of Victorville.** Project Manager for a Phase I cultural resources survey and paleontological records review, including sensitivity statements regarding the paleontology of the 65-acre property at tentative tract 16574 (including parcel 3094-131-02) for a project located in the City of Victorville, San Bernardino County, California for Victorville Acres, LLC. 2005

**Merrill Avenue Project Cultural Resources Assessment, City of Chino.** Project Manager for a Phase I cultural resources assessment and paleontological records review for the Albers and Van Vliet Dairy Farms, a project located in Chino, San Bernardino County, California for Watson Land Company. 2007

**Valle Grande Golf, Inc., Golf Course and Development on the Santa Ana Indian Reservation.** Project manager/archeologist for the completion of a new 27-hole golf course on Indian tribal lands in New Mexico. 1989

**Reese-Chambers Systems Consultants, Inc./Cabezon Indian Tribe, Master Planned Development EA.** Project archeologist for a tribal development project consisting of a variety of industrial park facilities, in Riverside County, California. 1995

**Reese-Chambers Systems Consultants, Inc./Mechoopda Indian Tribe, Tribal Trust Land Acquisition EA.** Project archeologist for a tribal development project consisting of a golf course, class II gaming facility, and other developments in Sutter County, California. 1996

**Reese-Chambers Systems Consultants, Inc./United Auburn Indian Tribe, Tribal Trust Land Acquisition EA.** Project archeologist for a tribal development project consisting of a class II gaming facility and housing development in Placer County, California. 1996

### **Education**

- Ph.D., Archaeology, University of Texas, Austin 1984
- B.A., Anthropology, University of Pittsburgh 1973

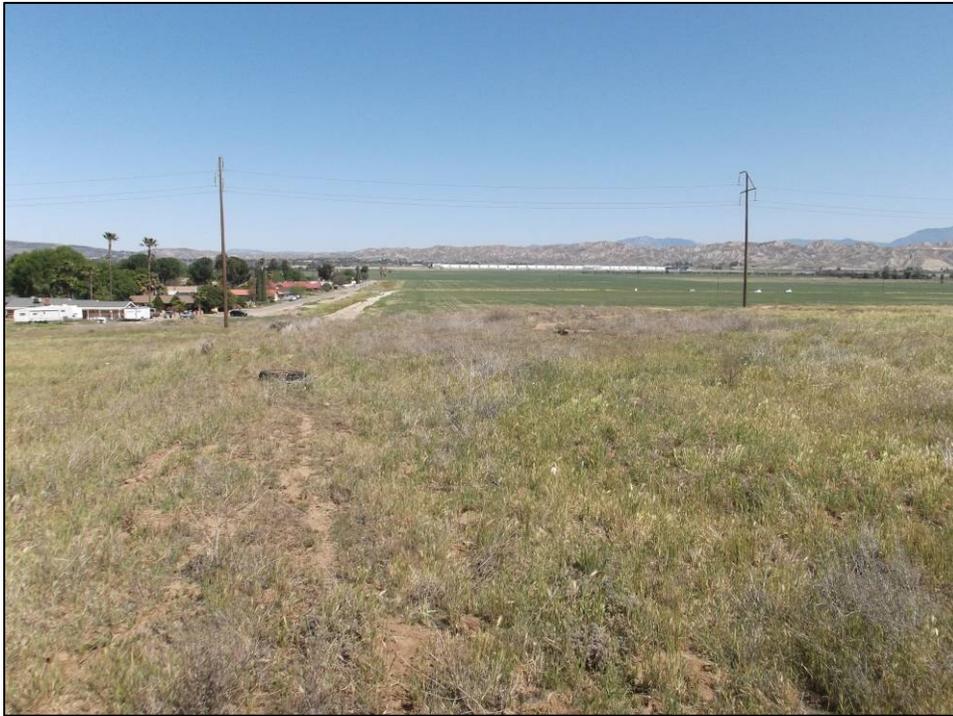
### **Special Training**

- Erosion and Sedimentation Control Seminar, University of California, Davis
- Management Training, Section 106 Compliance Seminar, New Mexico
- FERC - Natural Gas Pipeline Environmental Compliance Training Program
- Places That Count: Identifying and Managing Traditional Cultural Properties. San Diego

### **Professional Affiliations**

- Association of Environmental Professionals
- Riverside County Certified Archaeologist #100
- Registered Professional Archaeologist #11821

## **Appendix D: Project Area Photographs**



View of the SP from the southwest corner toward the North.



View of the SP from the southwest corner toward the east showing the lowermost foothills of Mount Russell.



Typical view of the flats in the SP from the corner of Theodore and Alessandro, view east.



Typical view of the flats in the SP from the corner of Theodore and Alessandro, view north.



Typical view of the SP from the eastern end of Eucalyptus Street near Gilman Springs Road.



View of the SP from the northeast corner toward the south.



Overview to the northeast of the eastern half of the SP from the high slope of Mount Russell.



Overview to the northwest of the western half of the SP from the high slope of Mount Russell.

**Appendix E:  
Confidential  
Department of Parks and Recreation (DPR) 523 Forms  
Not For Public Review**

**Appendix F:  
Confidential Site Locations  
Not For Public Review**

## **Appendix G: Historic Aerials**



Source: Whittier-Fairchild Historic Aerial Database.



Michael Brandman Associates

26100025 • 11/2011 | historic\_aerial\_1.cdr

## Appendix G Historic Aerial 1

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLAND FAIRVIEW SPECIFIC PLAN  
PHASE I AND AND PHASE II CULTURAL RESOURCES ASSESSMENT



Source: Whittier-Fairchild Historic Aerial Database.

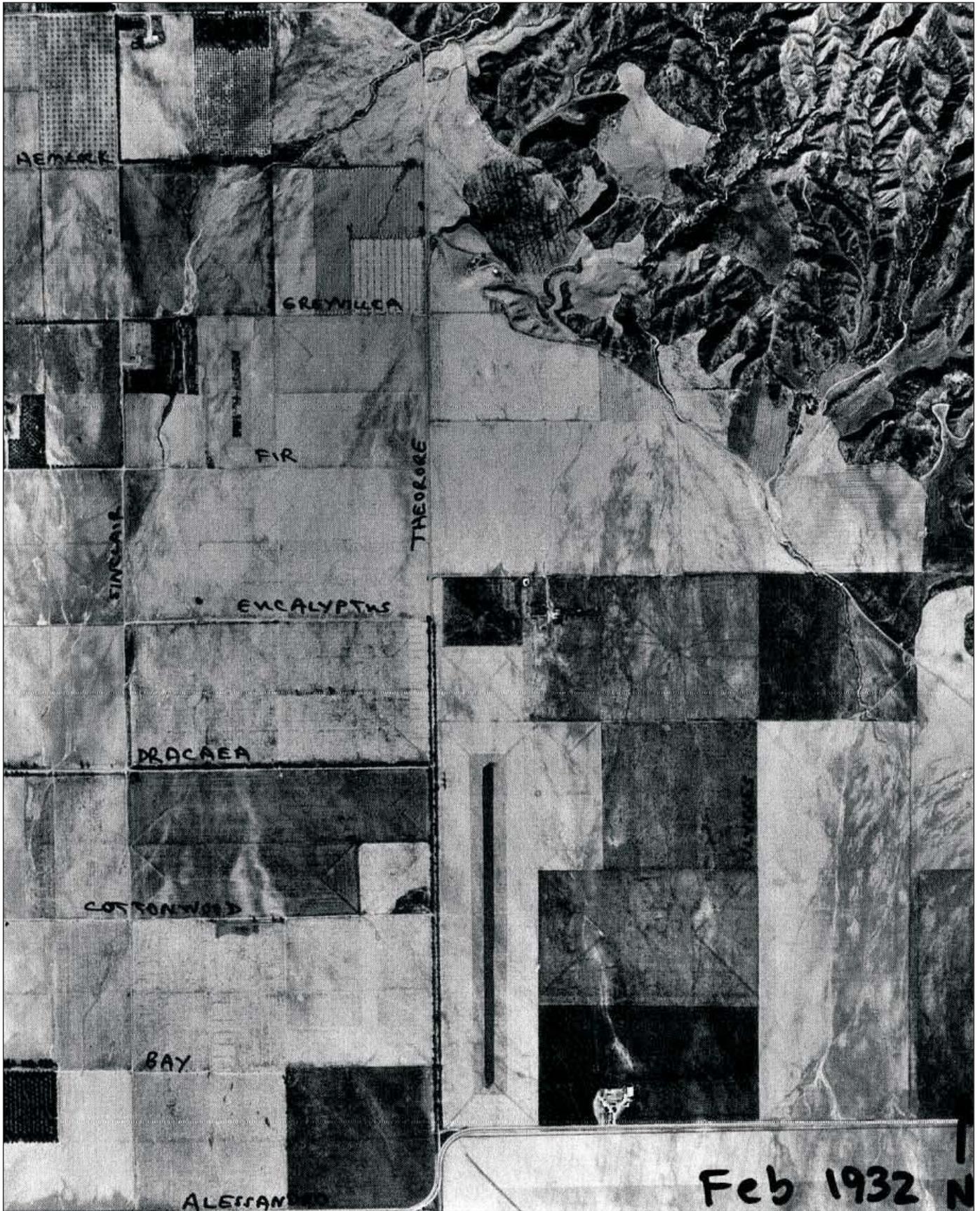


Michael Brandman Associates

26100025 • 11/2011 | historic\_aerial\_2.cdr

## Appendix G Historic Aerial 2

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLAND FAIRVIEW SPECIFIC PLAN  
PHASE I AND AND PHASE II CULTURAL RESOURCES ASSESSMENT



Source: Whittier-Fairchild Historic Aerial Database.

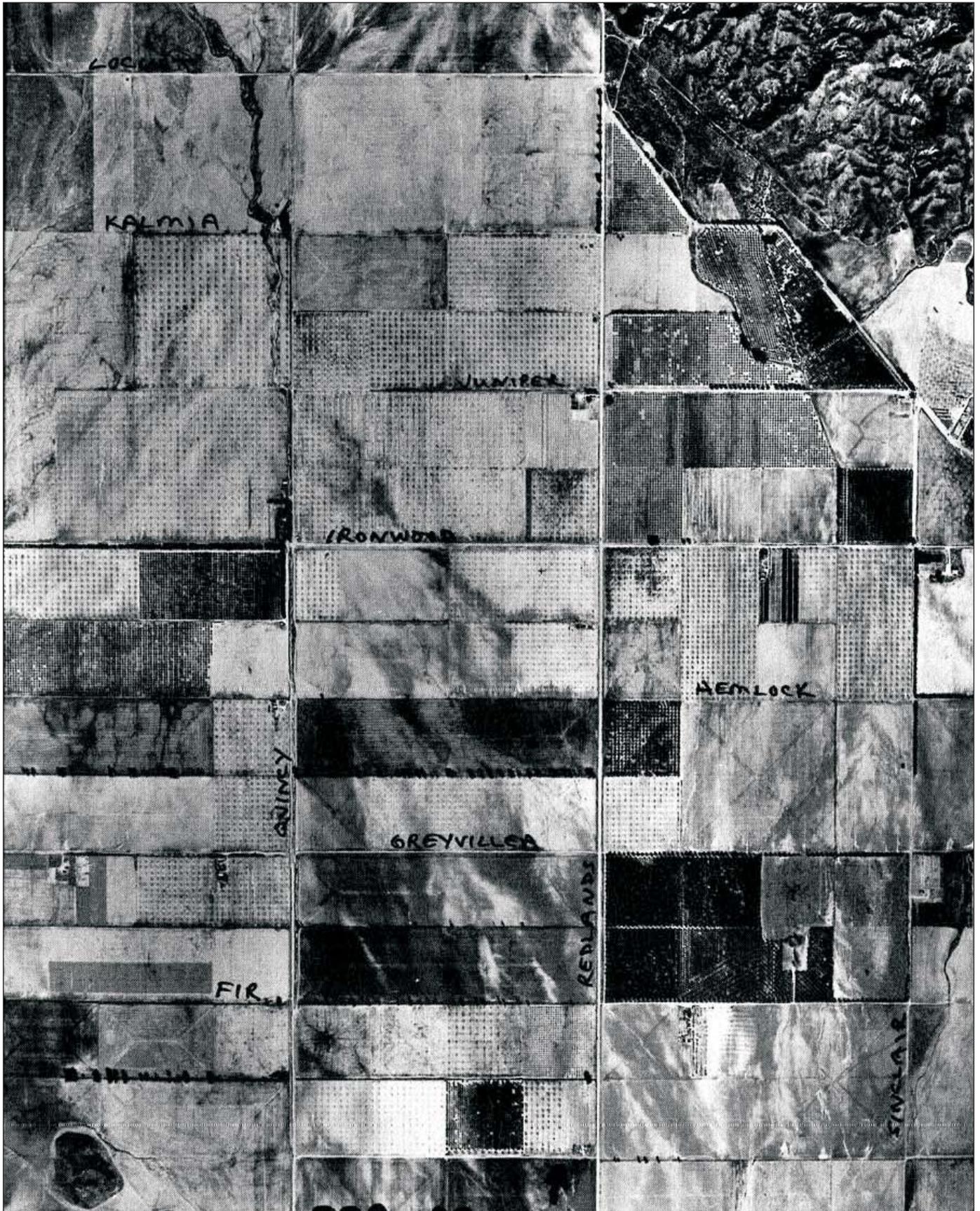


Michael Brandman Associates

26100025 • 11/2011 | historic\_aerial\_3.cdr

## Appendix G Historic Aerial 3

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLAND FAIRVIEW SPECIFIC PLAN  
PHASE I AND AND PHASE II CULTURAL RESOURCES ASSESSMENT



Source: Whittier-Fairchild Historic Aerial Database.



Michael Brandman Associates

26100025 • 11/2011 | historic\_aerial\_4.cdr

## Appendix G Historic Aerial 4

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLAND FAIRVIEW SPECIFIC PLAN  
PHASE I AND AND PHASE II CULTURAL RESOURCES ASSESSMENT

6-8-36



Source: Whittier-Fairchild Historic Aerial Database.



Michael Brandman Associates

26100025 • 11/2011 | historic\_aerial\_5.cdr

## Appendix G Historic Aerial 5

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLAND FAIRVIEW SPECIFIC PLAN  
PHASE I AND AND PHASE II CULTURAL RESOURCES ASSESSMENT

6-8-36



Source: Whittier-Fairchild Historic Aerial Database.



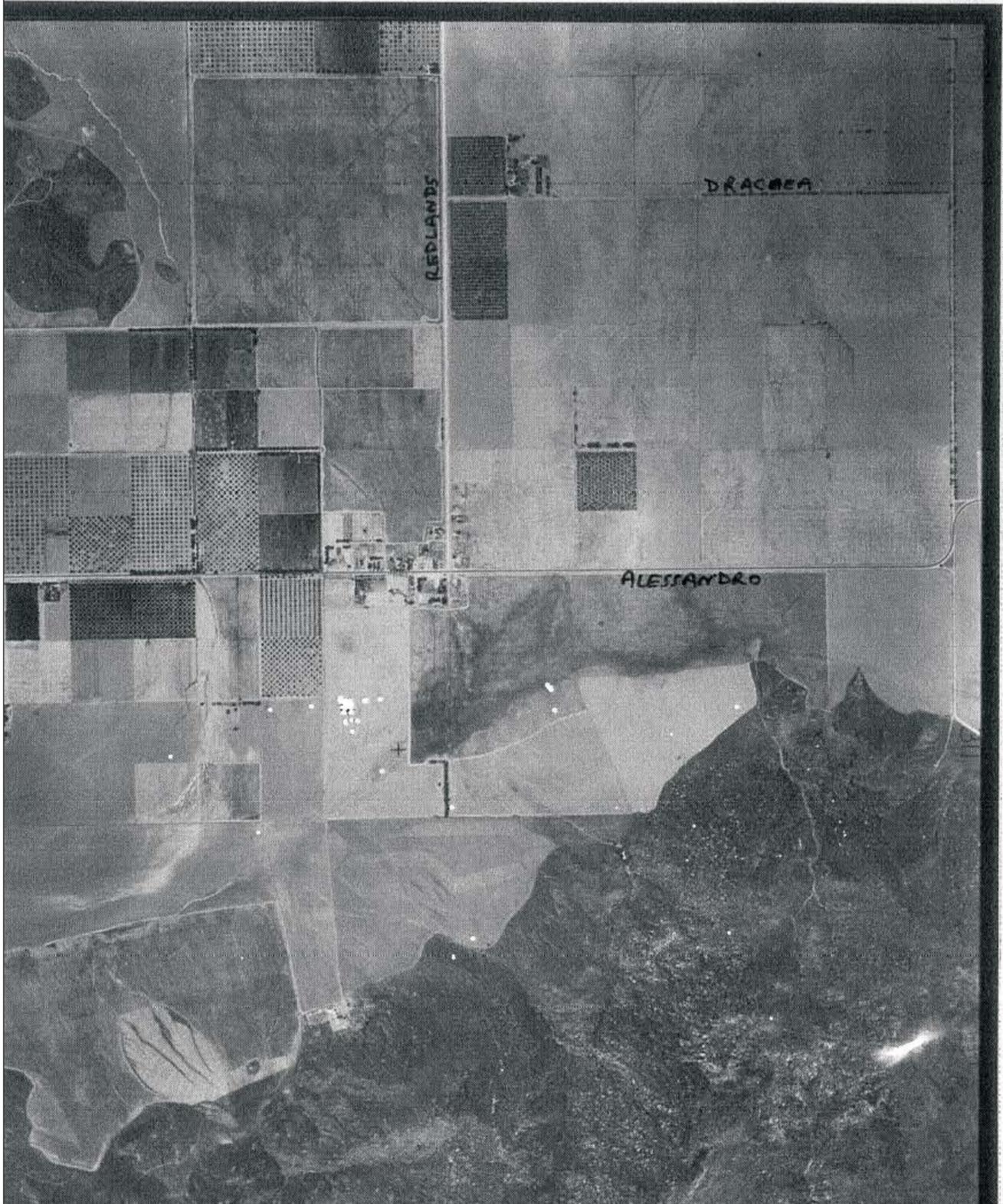
Michael Brandman Associates

26100025 • 11/2011 | historic\_aerial\_6.cdr

## Appendix G Historic Aerial 6

6-8-36

↑  
N



Source: Whittier-Fairchild Historic Aerial Database.

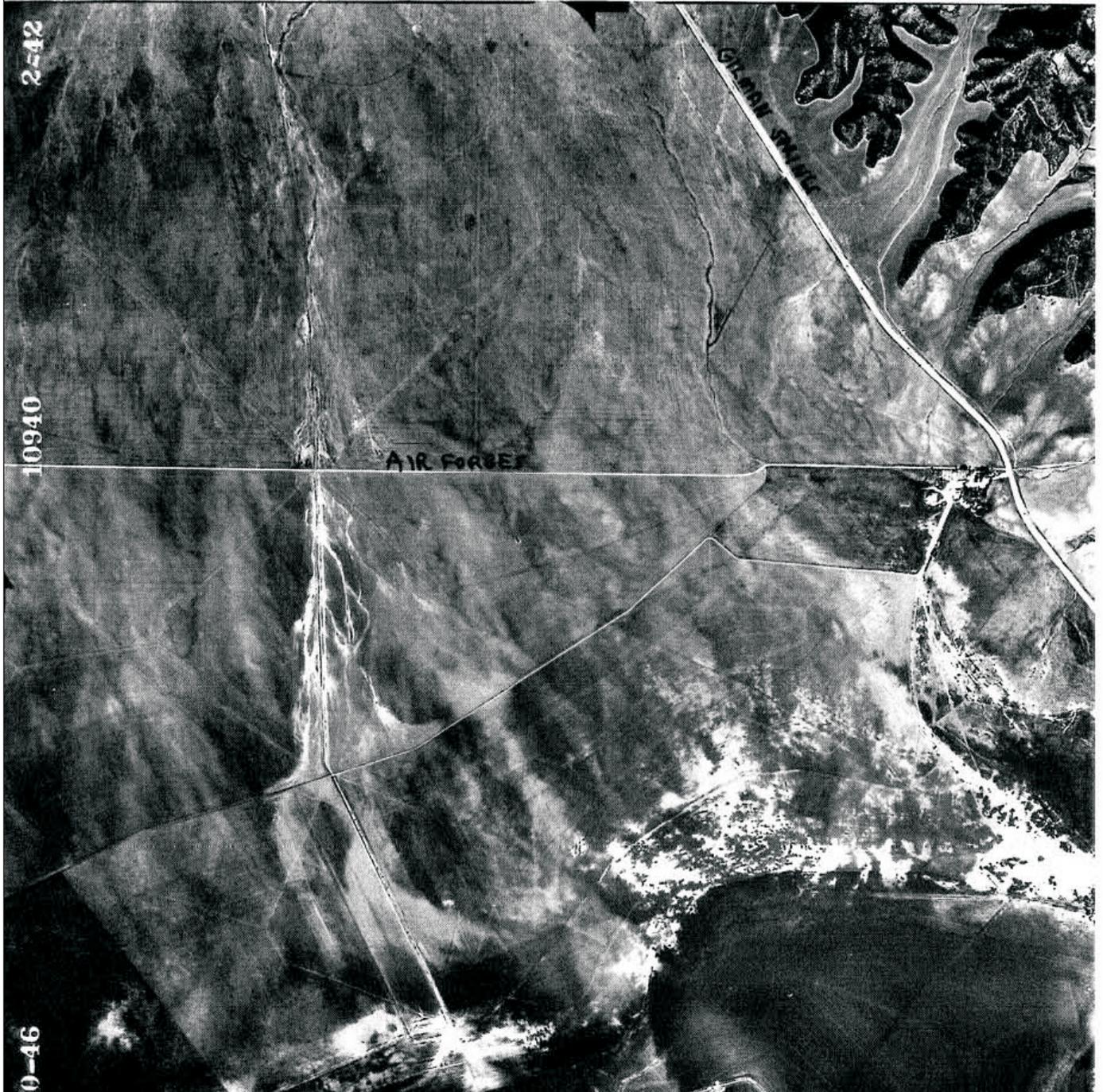


Michael Brandman Associates

26100025 • 11/2011 | historic\_aerial\_7.cdr

## Appendix G Historic Aerial 7

12-30-46



Source: Whittier-Fairchild Historic Aerial Database.



Michael Brandman Associates

26100025 • 11/2011 | historic\_aerial\_8.cdr

## Appendix G Historic Aerial 8

12-30-46 ↑  
N



Source: Whittier-Fairchild Historic Aerial Database.



Michael Brandman Associates

26100025 • 11/2011 | historic\_aerial\_9.cdr

## Appendix G Historic Aerial 9

12/30/46



Source: Whittier-Fairchild Historic Aerial Database.



Michael Brandman Associates

26100025 • 11/2011 | historic\_aerial\_10.cdr

## Appendix G Historic Aerial 10

1-18-47 ↑  
N



Source: Whittier-Fairchild Historic Aerial Database.



Michael Brandman Associates

26100025 • 11/2011 | historic\_aerial\_11.cdr

## Appendix G Historic Aerial 11

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLAND FAIRVIEW SPECIFIC PLAN  
PHASE I AND AND PHASE II CULTURAL RESOURCES ASSESSMENT

1-18-47  
↑  
N



Source: Whittier-Fairchild Historic Aerial Database.



Michael Brandman Associates

1-18-47 ↑  
N



Source: Whittier-Fairchild Historic Aerial Database.

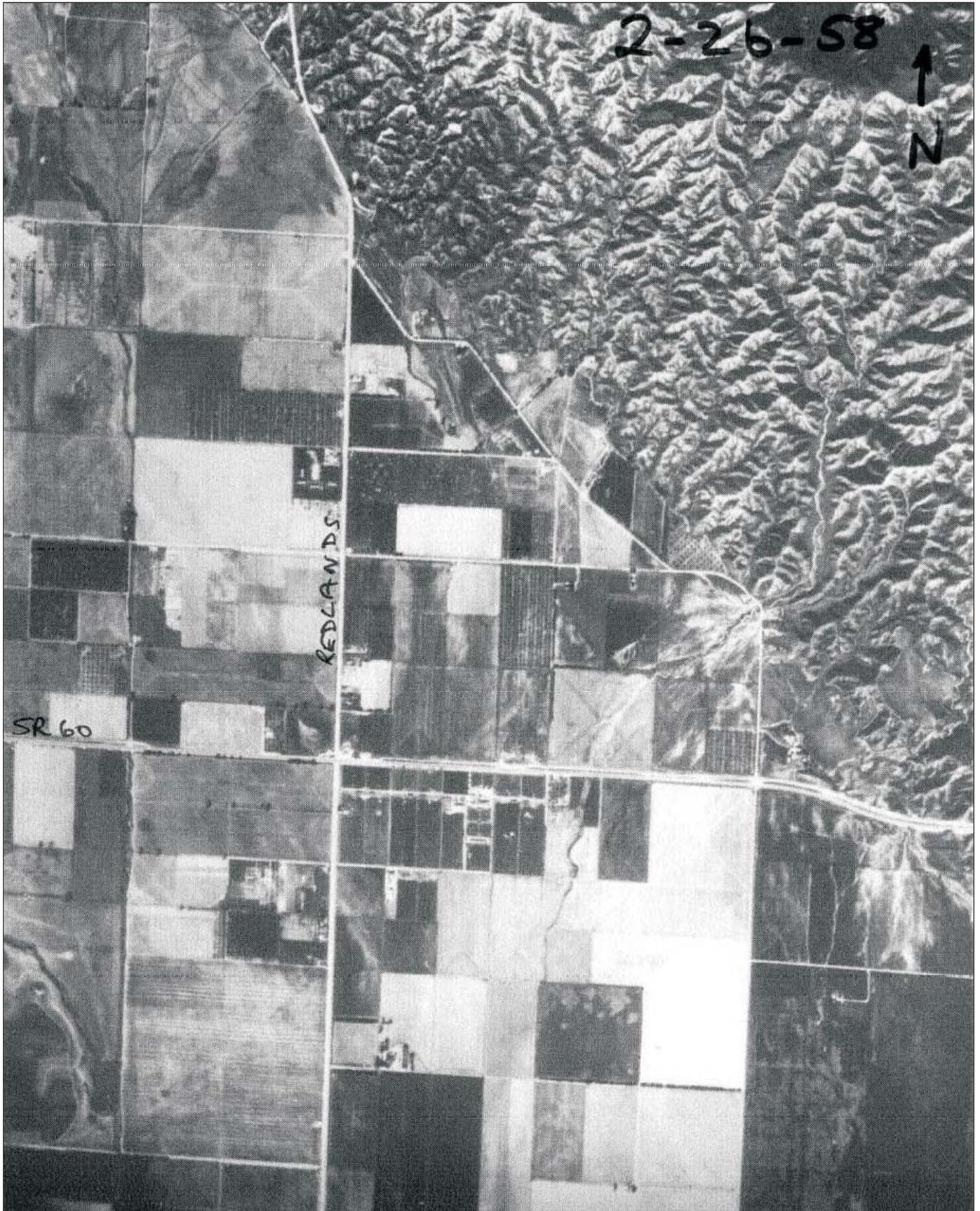


Michael Brandman Associates

26100025 • 11/2011 | historic\_aerial\_13.cdr

## Appendix G Historic Aerial 13

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLAND FAIRVIEW SPECIFIC PLAN  
PHASE I AND AND PHASE II CULTURAL RESOURCES ASSESSMENT



Source: Whittier-Fairchild Historic Aerial Database.



Michael Brandman Associates

26100025 • 11/2011 | historic\_aerial\_14.cdr

## Appendix G Historic Aerial 14



Source: Whittier-Fairchild Historic Aerial Database.

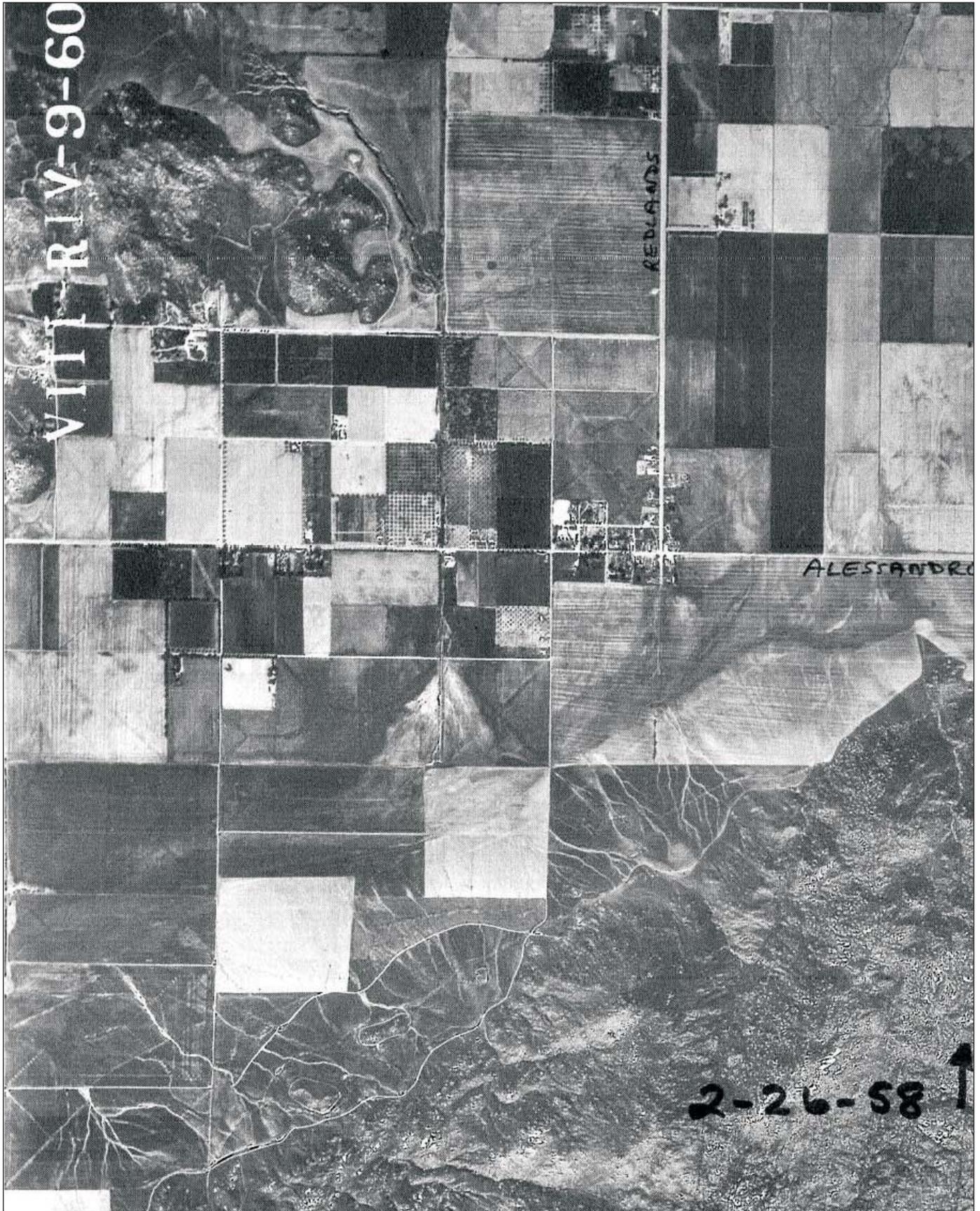


Michael Brandman Associates

26100025 • 11/2011 | historic\_aerial\_15.cdr

## Appendix G Historic Aerial 15

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLAND FAIRVIEW SPECIFIC PLAN  
PHASE I AND AND PHASE II CULTURAL RESOURCES ASSESSMENT



Source: Whittier-Fairchild Historic Aerial Database.



Michael Brandman Associates

26100025 • 11/2011 | historic\_aerial\_16.cdr

## Appendix G Historic Aerial 16

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLAND FAIRVIEW SPECIFIC PLAN  
PHASE I AND AND PHASE II CULTURAL RESOURCES ASSESSMENT



Source: Whittier-Fairchild Historic Aerial Database.



Michael Brandman Associates

26100025 • 11/2011 | historic\_aerial\_17.cdr

## Appendix G Historic Aerial 17

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLAND FAIRVIEW SPECIFIC PLAN  
PHASE I AND AND PHASE II CULTURAL RESOURCES ASSESSMENT