Heatherglen Planned Development

TTM 17604, CUP 15-006

Initial Study – Notice of Preparation

Appendix B – Phase 1 Cultural Resources Assessment

(Confidential Maps Removed)

L&L ENVIRONMENTAL, INC.
REGULATORY SERVICES
BIOLOGICAL & CULTURAL INVESTIGATIONS & MONITORING

December 11, 2017

Tom Bassett
℅ Stan Stringfellow
Greenspot Partners, Inc.
5120 Live Oak Canyon Road
La Verne, CA 91750

REGARDING: PHASE 1 CULTURAL RESOURCES ASSESSMENT FOR THE HEATHERGLEN/TRACT 17604 PROJECT, ±60 ACRES IN THE CITY OF HIGHLAND, SAN BERNARDINO COUNTY, CALIFORNIA

L&L Environmental, Inc. (L&L) is pleased to present the attached Phase I Cultural Resources Assessment report for your review. The attached report has been prepared in accordance with the California Environmental Quality Act (CEQA).

Thank you for the opportunity to work with you and please feel free to contact us at 909-335-9897 should you have any questions or comments. It has been a pleasure working with you!

Sincerely,
L&L Environmental, Inc.

Leslie Nay Irish
CEO

Celebrating 20 Years of Service to Southern CA and the Great Basin, WBE Certified (Caltrans, CPUC, WBENC)
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L&L ENVIRONMENTAL, INC.
REGULATORY SERVICES
BIOLOGICAL & CULTURAL INVESTIGATIONS & MONITORING

PHASE 1 CULTURAL RESOURCES ASSESSMENT FOR THE HEATHERGLEN/TRACT 17604 PROJECT ±60 ACRES IN THE CITY OF HIGHLAND, SAN BERNARDINO COUNTY, CALIFORNIA

Redlands, CA USGS 7.5-Minute Topographic Quadrangle Map
Township 1 South, Range 3 West, Section 2

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Fieldwork Completed By:
William R. Gillean

Fieldwork Date(s):
July 11, 2017; July 18, 2017; October 3, 2017

Report Date:
December 11, 2017

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MANAGEMENT SUMMARY

This report documents a California Environmental Quality Act (CEQA) Phase I Cultural Resources Assessment (CRA) for the Heatherglen/Tract 17604 Project. The purpose of this study was to determine if cultural resources more than 45 years old were observable or known in the project area and then evaluate the potential for the proposed project to impact cultural resources. The project would construct a residential development as outlined in Tract 17604. This development is located within a ±60 acre project area in the City of Highland, San Bernardino County, California. The project area includes Assessor's Parcel Numbers (APNs) 1210-211-18-0000, 1210-211-21-0000, 1210-211-23-0000, 1210-281-01-0000, 1210-281-02-0000, 1210-281-03-0000, and 1210-281-04-0000. L&L Environmental, Inc. (L&L) has completed this CRA at the request of Stan Stringfellow on behalf of Tom Bassett of Greenspot Partners, Inc.

A cultural resources records search was completed at the South Central Coastal Information Center (SCCIC) located at California State University, Fullerton. L&L Archaeologist William R. Gillean completed the search on July 6, 2017 for the project area and all lands found within one mile (Appendix B). The records search showed that 100 percent of the project area has been previously inventoried via two (2) reports (SB-2828/Gallegos & Associates 1993; SB-5671/ECORP 2006a). Including the two (2) reports that address the project area, a total of 16 studies have been completed within one mile and these studies have addressed approximately 30 percent of the land within the search radius. As a result of these studies, a total of 39 resources have been recorded within a one mile radius. Five (5) of these resources have been mapped within or partially within the project area:

- 36-6848/CA-SBR-6848H (Cram-Van Leuven Ditch)
- 36-6853/CA-SBR-6853H (Historic Refuse Scatter)
- 36-7434/CA-SBR-7434H (Historic Refuse Dump)
- 36-12264/CA-SBR-12205H (Historic Refuse Scatter)
- 36-12265 (Historic Citrus/Poultry Ranching Complex)

According to the resource locations as mapped at the SCCIC, all of these resources are located entirely within the project area boundary, with the exception of 36-6848/CA-SBR-6848H (Cram-Van Leuven Ditch). 36-6848/CA-SBR-6848H generally trends east-west through the project and extends beyond the project area boundaries. A segment of the resource measuring approximately 1,900 feet in length traverses the central portion of the project area. The

resource locations are shown in relation to the project area boundary in Figure 11.

Records and maps available from the Bureau of Land Management (BLM) General Land Office (GLO) were reviewed to provide information about historic era land use and development within the project area (BLM 2017). Archival topographic maps dating between 1895 and 1999 and aerial photographs dating between 1938 and 2012 were also reviewed (NETR 2017). Additional research was completed for the Cram-Van Leuven Ditch (36-6848/CA-SBR-6848H) at the A.K. Smiley Library, the Feldhym Library, the San Bernardino County Historical Archives, the Highland Area Historical Society (HAHS) website, and via inquires to local historians. The results of the review indicated that the Old North Fork Ditch, which is another name for the Cram-Van Leuven Ditch, has been variably mapped near or within the project area since the late 1880s. In addition, a water feature is observable on aerial photographs at the mapped location of the Cram-Van Leuven Ditch (36-6848/CA-SBR-6848H) since 1938. Finally, various structures have been located within the southwestern portion of the project area over time and in association with a historic age citrus and poultry ranching complex (36-12265). This complex includes several structures and active fields or groves that were present by at least 1938 and the structures were removed by 2009 (NETR 2017).

L&L contacted the Native American Heritage Commission (NAHC) requesting a Sacred Lands File database search (SLS). The SLS was requested on June 28, 2017 and a response was received on June 29, 2017 (Appendix D). The NAHC SLS failed to indicate the presence of Native American cultural resources in the immediate project area. However, the NAHC noted that the absence of specific site information does not indicate the absence of cultural resources in any project area and that other resources should be consulted to obtain information regarding known and previously recorded sites. Scoping letters were sent to the 19 contacts listed by the NAHC on July 6, 2017. These packages included a letter to the San Manuel Band of Mission Indians (SMBMI) in accordance with Goal 5.8, Policy 3 of the City of Highland General Plan (GP) (Highland 2006). As of the date of this report, one (1) response has been received from the SMBMI. This response stated that the project is located within Serrano ancestral territory and they requested additional project-related information and the completion of background research. Specifically, they recommended a records search at the SCCIC and an archaeological pedestrian survey. In addition, they requested that the results be provided for their review and consideration. All coordination efforts are presented in detail in Table 3 of this report and copies of all correspondence are included in Appendix E.

Site visits were completed on July 11, 2017 and October 3, 2017 to relocate and document

previously recorded resources and the Phase I pedestrian survey was conducted on July 18, 2017. During the pedestrian survey and site visits, no new prehistoric or historic resources were detected and four (4) previously recorded historic resources were relocated (36-6848/CA-SBR-6848H, 36-7434/CA-SBR-7434H, 36-12264/CA-SBR-12205H, and 36-12265). One (1) previously recorded historic site could not be relocated (36-6853/CA-SBR-6853H). Department of Parks and Recreation (DPR) 523 Update Forms were prepared for all resources associated with the project area and they were submitted to the SCCIC for their files. The DPR 523 Forms have been incorporated into Appendix F. The resources associated with the project area consist of the following:

- 36-6848/CA-SBR-6848H (Cram-Van Leuven Ditch): This resource consists of the mapped location of the Cram-Van Leuven Ditch, which is an irrigation ditch constructed in 1858 by members of the Cram and the Van Leuven families. This ditch was one (1) of the first irrigation systems emerging from the Santa Ana Canyon and it connected the mouth of the canyon with the Cram and Van Leuven lands located at the base of the East Highlands bench. When originally constructed, the ditch measured several miles in length. A segment measuring about 1,900 feet has been mapped in the project area. This segment was originally recorded in 1993 and it was updated in 2006 (Eighmey, et al. 1993a; ECORP 2006b). L&L detected a water feature at the location of the recorded segment in 2017 and determined that the dimensions and description provided in 2006 were generally accurate.

- 36-6853/CA-SBR-6853H (Historic Refuse Scatter): This site was originally recorded in 1990 as a historic age refuse scatter with artifacts dating from about World War I (1914-1918) to the 1930s or 1940s (Romani, et al. 1990b). It could not be relocated during studies completed in 1993, 2006, or during the current study and is presumed destroyed (Gallegos & Associates 1993; ECORP 2006a).

- 36-7434/CA-SBR-7434H (Historic Refuse Dump): Initially recorded in 1993 and updated in 2006, this site was described as a historic age domestic refuse dump with artifacts dating to 1932 or later (Phillips and McHenry 1993; Gallegos & Associates 1993; ECORP 2006a; ECORP 2006c). L&L relocated this site in 2017 and found that the site exhibits the same dimensions as described in 1993 and 2006. However, only five (5) artifacts and a scatter of milled wood planks with modern nails were detected at the site location. While many of the diagnostic artifacts were collected in 1993, numerous artifacts remained in 2006 and the majority of these artifacts could not be detected by

L&L.

- 36-12264/CA-SBR-12205H (Historic Refuse Scatter): This site was originally recorded in 2006 as a sparse historic age refuse scatter dating between about 1880 and 1925 (Cotterman and Sharp 2006; ECORP 2006a). L&L relocated this site in 2017 and it currently reflects the same dimensions and general composition as described in 2006. However, many of the artifacts described in the original site record could not be detected.

- 36-12265 (Historic Citrus/Poultry Ranching Complex): 36-12265 was originally recorded in 2006 and it was described as an early 20th century citrus and poultry ranching complex comprised of four (4) houses and a variety of associated features (Cotterman 2006; ECORP 2006a). L&L relocated this site in 2017; however, all of the houses and the majority of the recorded features have been removed. A total of three (3) previously recorded features are currently extant, including a round concrete cistern, a stone irrigation reservoir, and a concrete well pad.

36-6848/CA-SBR-6848H (Cram-Van Leuven Ditch) is an irrigation ditch constructed in 1858 by members of the Cram and the Van Leuven families. This ditch was one (1) of the first irrigation systems emerging from the Santa Ana Canyon, was the subject of the first water-rights suit in the Santa Ana River basin to be adjudicated by a court (DeWitt, et al. vs Van Leuven, et al. 1860; Beattie 1951), and it directly affected the development patterns of East Highland through an increase in water availability and reliability. For these reasons, 36-6848/CA-SBR-6848H appears to meet the significance criteria of the California Register of Historical Resources (CRHR) under Criterion 1 (Event) and the City of Highland Municipal Code cultural resource criteria under Criterion A (Section 16.32.060). However, the water feature segment in the project area does not appear to reflect the location of the ditch during its period of significance (1858-1881). Instead, it may represent a mapping error or a later and more southerly extension of the ditch dating to after 1891 (see Section 2.5). In addition, the existing water feature in the project area is in very poor condition, as it has been adversely affected by erosion over time and is currently overgrown with vegetation and is filled with cobbles and boulders. As such, this ditch segment possesses low integrity in general and low integrity for its period of significance (1858-1881). Thus, the segment of 36-6848/CA-SBR-6848H (Cram-Van Leuven Ditch) mapped within the project area is recommended not eligible for inclusion in the CRHR, not eligible as a City of Highland cultural resource, and not significant under CEQA. The research efforts completed during this study and recordation onto a DPR 523 Update Form exhausts this

resource segment's research value and no further work is recommended prior to project implementation.

36-6853/CA-SBR-6853H (Historic Refuse Scatter) could not be relocated within the project area and is presumed to be destroyed. As this resource is considered destroyed, no known artifacts or features will be impacted by the project and no further work is recommended prior to project implementation.

36-7434/CA-SBR-7434H (Historic Refuse Dump), 36-12264/CA-SBR-12205H (Historic Refuse Scatter), and 36-12265 (Historic Citrus/Poultry Ranching Complex) currently lack the artifact content or features once recorded at each site and all three (3) sites have been subject to soil disturbances associated with erosion. 36-12265 has additionally been adversely impacted by demolition activities. None of these resources appear to retain sufficient integrity to be considered eligible for inclusion in the CRHR and no evidence was detected to indicate that any of these resources have the potential to yield additional information important to history (Criterion 4). Therefore, L&L recommends 36-7434/CA-SBR-7434H, 36-12264/CA-SBR-12205H, and 36-12265 not eligible for inclusion in the CRHR and not significant pursuant to CEQA. In addition, L&L recommends these sites not eligible as cultural resources under Section 16.32.060 of the City of Highland Municipal Code. Recordation onto DPR 523 Update Forms exhausts each site's research value and no further work is recommended for any of these resources prior to project implementation.

Based on the results of a records search completed at the SCCIC; the pedestrian survey and site visits; and the research, recording, and evaluation efforts, no known historical or archaeological resources pursuant to CEQA are located in the project area. However, archaeological monitoring is recommended during project implementation. This monitoring program is intended to address the high sensitivity of the project area for historic age resources and a moderate to low sensitivity for prehistoric resources. This monitoring program is outlined in Table 4 of this report (Recommended Cultural Resources Mitigation Measures).

It should also be noted that the SMBMI have indicated that the project area lies within Serrano ancestral territory. In addition, they have requested additional project-related information, including the results of archaeological research and survey efforts. Upon their review of the requested information, the SMBMI may provide additional comments or recommendations. The results of this process may further assist in outlining the sensitivity of the project area for Native American resources and the need or lack thereof for Native American monitoring during project implementation.

1.0) INTRODUCTION AND ENVIRONMENTAL SETTING

1.1) Introduction

The following report documents a Phase I CRA for the Heatherglen/Tract 17604 Project and was completed in accordance with CEQA. This report follows the California Office of Historic Preservation (OHP) procedures for cultural resource surveys and is generally based on the OHP Archaeological Resource Management Report (ARMR) format (OHP 1990).

1.2) Project Location

The proposed project is generally located in the southwestern portion of San Bernardino County, California, and is situated north of Interstate 10 (Figure 1). Specifically, it can be found within Section 2 of Township 1 South, Range 3 West as shown on the USGS *Redlands, CA* 7.5' topographic quadrangle map (Figure 2). The project is located immediately to the south of Greenspot Road in the City of Highland (Figure 3). The project site consists of APNs 1210-211-18-0000, 1210-211-21-0000, 1210-211-23-0000, 1210-281-01-0000, 1210-281-02-0000, 1210-281-03-0000, and 1210-281-04-0000 and measures ±60 acres.

1.3) Project Description

The proposed project is the development of a planned housing community as outlined in Tract 17604. This development occupies ±60 acres and includes various lots and associated streets. The development plan is shown in relation to the project area boundary in Figure 4.

1.4) Cultural Resources Staff

The cultural resources records search was conducted on July 6, 2017 at the SCCIC by L&L Archaeologist William R. Gillean, B.S. W. Gillean completed site visits to relocate and document previously recorded resources on July 11, 2017 and October 3, 2017 and he performed the pedestrian survey on July 18, 2017. He acquired research materials from the A.K. Smiley Library, the Feldhym Library, the San Bernardino County Historical Archives, and local historians in November 2017. L&L Archaeologist Jennifer M. Sanka, M.A., RPA completed additional research via the HAHS website and via inquires to local historians in November 2017. J. Sanka authored the CRA with contributions from W. Gillean. L&L CEO/Principal Project Manager Leslie Irish provided quality control oversight and J. Sanka served as the Principal Investigator.

Professional qualifications for all team members are located in Appendix A.

L&L Environmental, Inc.

BIOLOGICAL AND CULTURAL INVESTIGATIONS AND MONITORING

GSPI-05-646
December 2017

Figure 1

Project Vicinity Map
Heatherglen/Tract 17604 Project
City of Highland
San Bernardino County, California

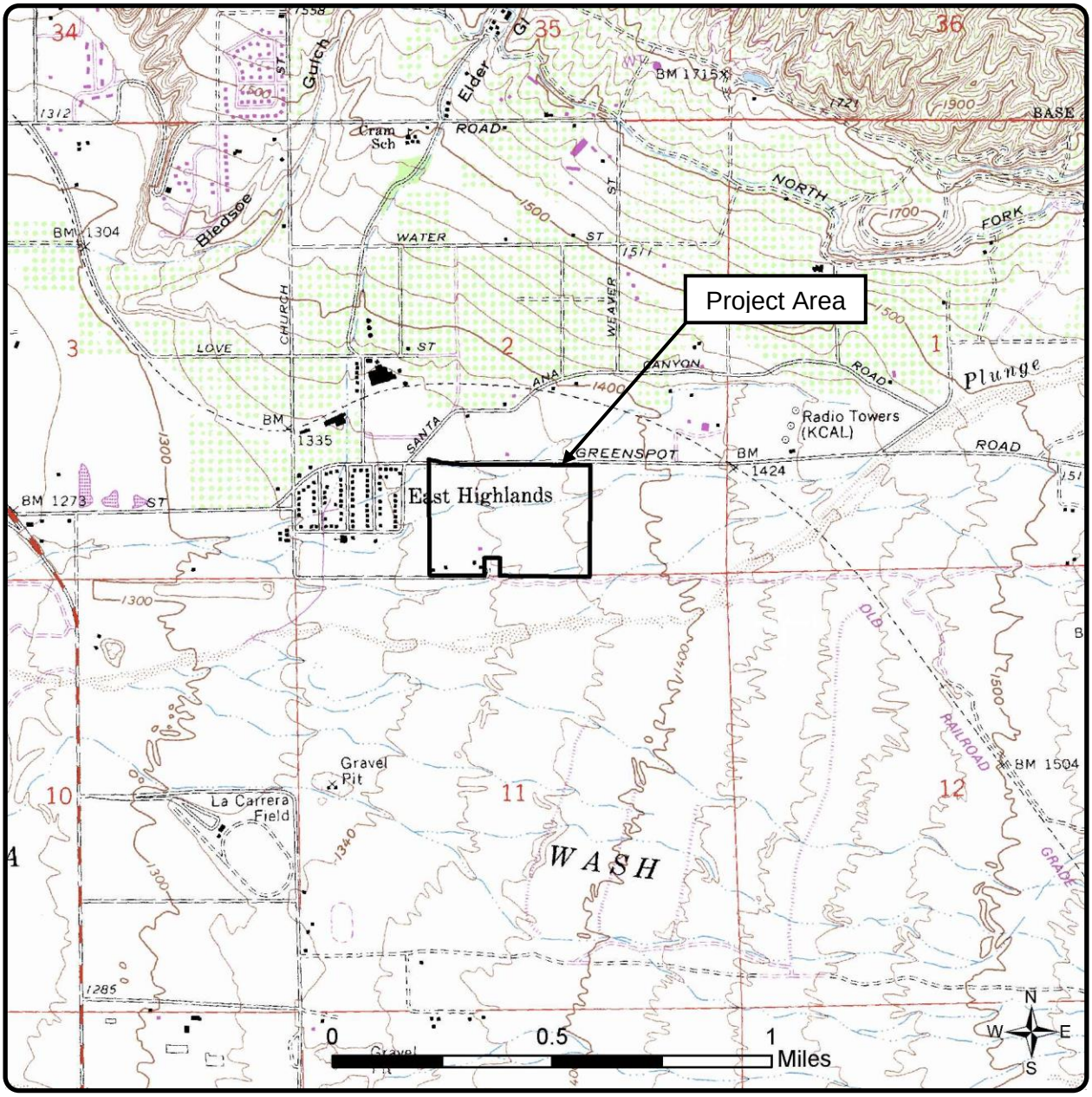

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Figure 2

Project Location Map

(USGS Redlands [1988] quadrangle,
Section 2, Township 1 South, Range 3 West)
Heatherglen/Tract 17604 Project
City of Highland
San Bernardino County, California

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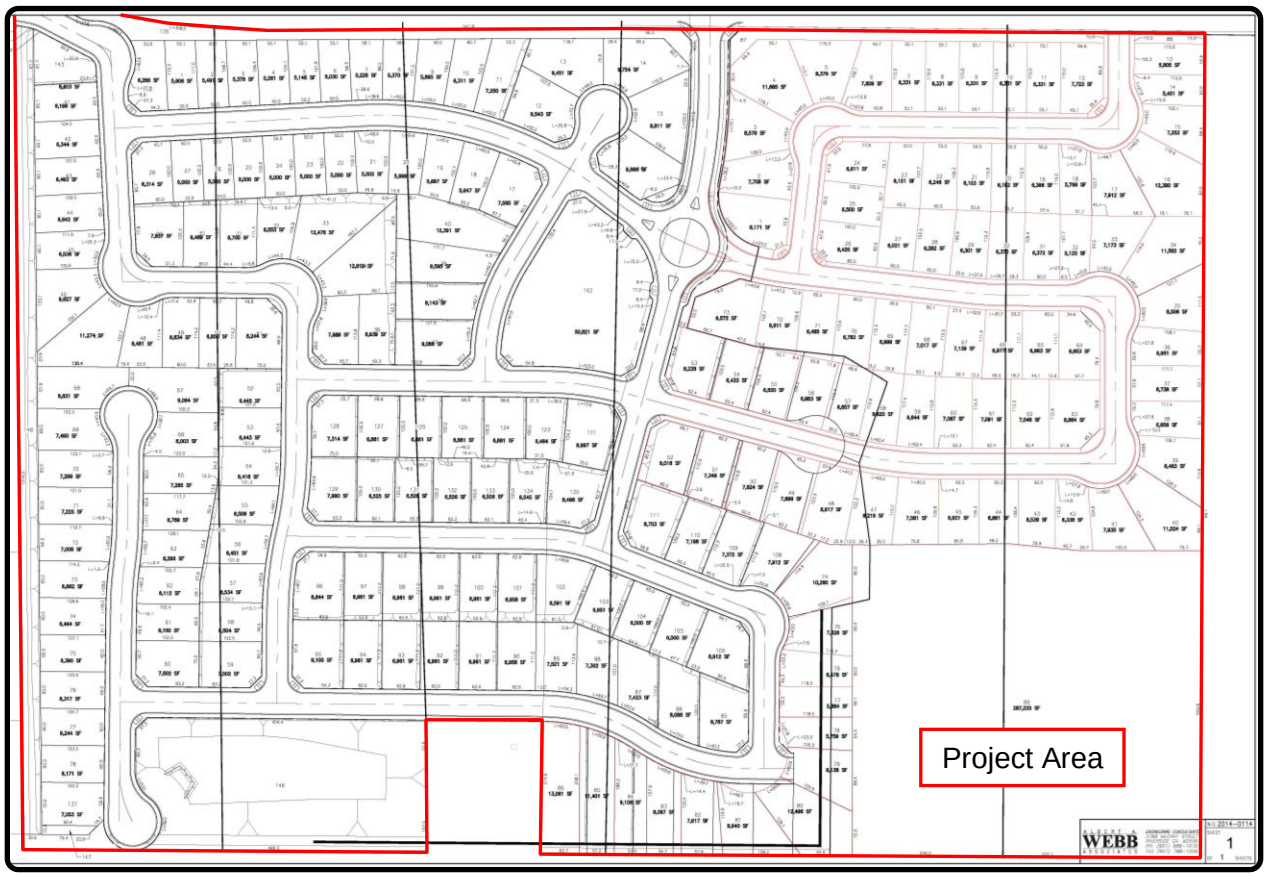
Figure 3

Aerial Photograph
(Photo obtained from Google Earth, October 2016)
Heatherglen/Tract 17604 Project
City of Highland
San Bernardino County, California



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BIOLOGICAL AND CULTURAL INVESTIGATIONS AND MONITORING

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Figure 4

Development Plan
(Plan obtained from Albert A. Webb Associates, 7-21-2016)
Heatherglen/Tract 17604 Project
City of Highland
San Bernardino County, California

1.5) Environmental Setting

1.5.1) Existing Land Use/Topography/Geology

The project area is currently undeveloped; however, the remnants of a historic age citrus and poultry ranching complex are located in the southwestern corner (36-12265). The lands surrounding the project area are generally characterized by residential developments of varying densities and undeveloped lands. The project area is bound to the north by Greenspot Road, followed by a high-density residential development. It is bound to the east, south, and west by dirt roads and undeveloped lands. To the west, the undeveloped lands are followed by residential development.

Topographically, the project area is primarily flat and exhibits low-relief rolling hills and shallow depressions. Elevation ranges from about 1,350 feet to 1,385 above mean sea level. Soils in the western portion of the project area are mapped as Soboba gravelly loamy sand (SoC) while the soils in the eastern portion are mapped as Soboba stony loamy sand (SpC) (NRCS 2017). Geologic mapping indicates that the majority of the project area is underlain by young axial-valley deposits of the latest Holocene (Qya5). These deposits consist of slightly to moderately consolidated silt, sand, and gravel deposits. Smaller areas within the project area are mapped as very young wash deposits from the latest Holocene (Qvyw). They are very slightly consolidated sand and gravel deposits in active washes (Matti, et al. 2003).

1.5.2) Vegetation

The eastern portion of the project area is characterized by relatively undisturbed alluvial fan sage scrub inhabited by a mixture of non-native and native plants. Areas within the western portion of the project area are comparatively more disturbed in association with past and ongoing human activities, such as the cultivation of *Eucalyptus* and jojoba. This portion of the project area also exhibits invasive non-native plant species (L&L 2017).

1.5.3) Water Resources

A portion of the Santa Ana Wash is located approximately 0.10 mile to the south of the project area. In addition, a water feature trends east-west across the central portion of the project area. Currently, no water is observable in the water feature and it does not convey flows either to or from the project area. The western end terminates near two (2) dirt roads while the eastern end terminates at about the project area boundary and is interrupted by a modern north-south trending flood control channel.

2.0) CULTURAL SETTING

2.1) Prehistoric Setting

The following section provides a brief discussion on the prehistoric and historic setting to provide a context for understanding the relevance of resources found in and near the project area. Additional information can be found in ethnographic studies, mission records, and major published sources, including Kroeber (1925), Wallace (1955), Warren (1968), Heizer (1978), Moratto (1984), Chartkoff and Chartkoff (1984), Fagan (2003), and Jones and Klar (2007).

The purpose of establishing a cultural sequence is to allow for the meaningful comparison of material culture attributes on an intra- and inter-site basis and to provide the basis for culture-model building. To this end, regional archaeologists often follow Wallace's southern California format (1955 and 1978) for discussing the prehistoric chronology of the project area. However, the established chronologies are often augmented or even abandoned. For example, Fagan (2003) does not use the traditional archaeological cultural sequences for his regional analysis, instead he describes the stages as generalized models related to recent environmental change and socio-economic models, all associated with an ever-changing environment. Thusly, it should be noted that all of the presented cultural sequences are regularly challenged, as are the meanings of the individual frames of reference. Wallace's prehistoric format is as follows:

- Early Period (before 6000 B.C.)
- Millingstone Period (6000 to 3000 B.C.)
- Intermediate Period (3000 B.C. to A.D. 500)
- Late Prehistoric Period (A.D. 500 to A.D. 1769)

Wallace also argued (Wallace, in Heizer 1978) that the stages prior to 2000 B.C. in southern California could be assigned to:

- San Dieguito Period (Period I: 9000 to 6000 B.C.)
- Standard Millingstone Period (Period II: 6000 to 3000 B.C.)
- Modified Millingstone Period (Period III: 3000 to 2000 B.C.)

Warren (1968) uses the following terms to subdivide the periods:

- San Dieguito Tradition (before 5500 B.C.)
- Encinitas Tradition (5500 B.C. to A.D. 600)
- Shoshonean Tradition (A.D. 600 to A.D. 1769)

2.1.1) Early Period (before 6000 B.C.)

Beginning with the first human presence in California, prehistoric artifacts and cultural activities appear to represent a big-game hunting tradition. Very few sites from the Early Period exist, especially in inland areas. Of the Early Period sites that have been excavated and dated, most exhibit a refuse assemblage suggesting short-term occupation. Such sites have been detected in caves and around fluvial lakes fed by streams that existed near the end of the last glaciation. Chipped stone tools at these sites are surmised to reflect a specialized tool kit used by hunters. Large-stemmed bifaces are common. Millingstones and dart points are not part of the Early Period tool assemblage.

2.1.2) Millingstone Period (6000 to 3000 B.C.)

Characterized by the appearance of handstones and millingstones, the onset of the Millingstone Period appears to correspond with an interval of warm and dry weather known as the Altithermal (Wallace 1978). Artifact assemblages begin to reflect an emphasis on plant foods and foraging subsistence systems, as evidenced by the grinding tools found at these sites. Assemblages also include choppers and scraper planes; however, there is a reduced number of large bifaces. Sites are occupied for a greater duration than Early Period sites, based on an increase in occupational debris. The distribution of millingstone sites reflects the theory that groups may have followed a modified central-based wandering settlement pattern. In this semi-sedentary pattern a base camp would have been occupied for a portion of the year, but small population groups seasonally occupied subsidiary camps in order to exploit resources not generally available near the base camp. Sedentism apparently increased in areas possessing an abundance of resources that were available for longer periods. More arid inland regions would have provided a seasonally dispersed resource base, restricting sedentary occupation.

2.1.3) Intermediate Period (3000 B.C. to A.D. 500)

Dating between roughly 3000 B.C. and A.D. 500, the Intermediate Period represents a slow technological transition, which is presumably related to the slowly drying and warming climate.

Site artifact assemblages retain many attributes of the Millingstone Period. Technologically, these sites are difficult to distinguish from earlier sites in the absence of radiometric dates. Additionally, these sites generally contain a reduced number of large-stemmed or notched projectile points, but there is an increase in portable mortars and pestles. The lack of large points, combined with the mortars and pestles, suggest that the indigenous populations may have preferred harvesting, processing, and consuming acorns and other seeds over hunting. Due to a general lack of data, neither the settlement and subsistence systems nor the cultural evolution of this period are well understood. It has been proposed by some researchers that group sedentism increased with the exploitation of storable, high-yield plant food resources, such as acorns. The duration and intensity of occupation at base camps increased during this period, especially in the later part of the period.

2.1.4) Late Prehistoric Period (A.D. 500 to A.D. 1769)

Extending from about A.D. 500 to Spanish contact in A.D. 1769, the Late Prehistoric Period reflects an increased sophistication and diversity in technology. Cultural complexes appeared that have modern ethnographic counterparts. Occupation sites consisted of major villages with cemeteries, as well as "special purpose" and seasonal sites. Village sites are common. Late assemblages characteristically contain small projectile or dart points, which imply the use of the bow and arrow. Use of bedrock milling stations is purported to have been widespread during this period, as it was in the previous period. Increased hunting efficiency and widespread exploitation of acorns provided reliable and storable food resources. Desert series projectile points, buffware and brownware ceramics, shell, steatite beads, slate pendants, incised stones, and milling tools constitute the tool assemblage. Regional differences, such as Cottonwood Projectile Points, were common and the use of obsidian increased in some areas and decreased in others.

2.2) Ethnographic Setting

The project area is located in an ethnographic transition region adjacent to the borders of the Traditional Use Areas (TUAs) of the Gabrieliño (Tongva), Cahuilla, and Serrano (Highland 2006). Tribal boundaries were likely very fluid in this area, allowing for the exchange of ideas and technology among these groups. The project area is situated near the far northeastern edge of an area that is associated with the Gabrieliño (Tongva) (Bean and Smith 1978), along the far northwestern extent of an area that is associated with the Cahuilla (Bean 1978), and at the southern edge of an area that is associated with the Serrano (Heizer 1978). Gabrieliño tribal territory is mapped as extending north from Aliso Creek to just beyond Topanga Canyon

along the Pacific Coast and inland to the City of San Bernardino (Bean and Smith 1978). The Cahuilla northern border trends to the southeast along the southern margin of the San Bernardino Mountains from near the modern City of Riverside in the west (Bean 1978). Serrano lands are mapped as encompassing the San Bernardino Mountains from the Cajon Pass in the west to beyond modern Twentynine Palms in the east and from about Victorville in the north to near the San Gorgonio Pass in the south (Heizer 1978). The following sections provide brief summaries of these tribal groups.

2.2.1) Gabrieliño (Tongva)

Kroeber (1925) and Bean and Smith (1978) form the primary historical references for the Gabrieliño (Tongva). The arrival of Spanish explorers and the establishment of missions and outposts during the 18th century ended the prehistoric period in California. At this time, traditional Gabrieliño society began to fragment as a result of foreign diseases and the mass removal of local Native American groups to the Mission San Gabriel and Mission San Juan Capistrano.

The Gabrieliño 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 Gabrieliño population in about A.D. 1770 was roughly 5,000 persons, based on an estimate of 100 small villages, with approximately 50 to 200 people per village. Their range is generally thought to have been located along the Pacific coast from Malibu to San Pedro Bay, south to Aliso Creek, east to Temescal Canyon, then north to the headwaters of the San Gabriel River. Also included were several islands, such as Catalina. This large area encompasses the City of Los Angeles, much of Rancho Cucamonga, Corona, Glendale, Long Beach, and San Dimas. By 1800, most traditional Gabrieliños had either been killed or subjugated by the Spanish.

The first modern social analyses of Gabrieliño culture took place in the early part of the 20th century (Kroeber 1925). By this time, acculturation and disease had devastated this group, and the population studied was a remnant of their pre-contact form. Nonetheless, the early ethnographers viewed the Gabrieliño as a chief-oriented society of semi-sedentary hunter-gatherers. Influenced by coastal and interior environmental settings, their material culture was quite elaborate and consisted of well-made wood, bone, stone, and shell items.

Located in an area of extreme environmental diversity, large villages may have been permanent, such as that found on or near Red Hill in Rancho Cucamonga, with satellite villages

utilized seasonally. Their living structures were large, domed, and circular thatched rooms that may have housed multiple families. The society exhibited ranked individuals, possibly chiefs, who possessed a much higher level of economic power than unranked persons.

2.2.2) Cahuilla

The Cahuilla TUA is vast, with borders extending southeast from the modern City of Riverside in the north to Borrego Springs in the south. From Borrego Springs, the border trends east below the Santa Rosa Mountains, bisecting the Salton Sea, and further inland past the Chocolate Mountains. The Cahuilla northern border then trends southeast from near the modern City of Riverside in the west, along the southern margin of the San Bernardino Mountains, to beyond the Chocolate Mountains in the east (Bean 1978).

The Cahuilla belong to the Shoshonean linguistic family and have had definitive historical relationships with the Hopi of Arizona, the Gabrieliño, and Digueño of the southern California coast and the Luiseño of Riverside County, as well as other desert tribes such as the Kamia, Chemehuevi, Paiute, and Serrano. The Cahuilla population prior to Spanish contact could have been as numerous as 6,000 persons in an area encompassing more than 2,400 square miles (Bean 1978; Bean and Saubel 1979; Strong 1972).

Villages were determined according to their proximity to a defined water source and access to a food-gathering locale. Village sites were usually located near alluvial fans, streams, or at the base of mountains for protection against the winds. In the desert, some settlements were located around hand dug wells and watering holes. The Cahuilla can be discussed according to their primary village locality: Desert Cahuilla, Mountain Cahuilla, and Valley Cahuilla. Typically, a clan or family occupied several food-gathering locations and guarded these areas against other Cahuilla clans (Bean 1972 and 1978; Oswalt 1988; Strong 1972).

Cahuilla homes were generally constructed with forked posts, which supported wood ceiling beams. These structures were completely covered in thatch, which was slightly mixed with sand or soil. In some cases, the floor was slightly subterranean and each house was positioned so that a level of privacy was attained (Bean 1978; Kroeber and Hooper 1978). Wilke (1978) notes that the Cahuilla homes were generally hidden in mesquite groves, which effectively obscured them from plain view.

Ceremony and ritual was of great importance to the Cahuilla (Bean 1978). Deep ceremonial ties existed between the Serrano and the Cahuilla, and it is thought that the Desert Cahuilla

may have adopted certain ceremonial practices from the Serrano. Frequently practiced ceremonies include multiple rituals for the mourning of the dead, the eagle dance, summer and winter solstice celebrations, and separate initiation rites for boys and girls (Strong 1972).

2.2.3) Serrano

The Serrano TUA is mapped as encompassing the San Bernardino Mountains from the Cajon Pass in the west to beyond modern Twentynine Palms in the east and from about Victorville in the north to near the San Gorgonio Pass in the south (Bean and Smith 1978). However, these borders are ill defined due to a lack of reliable data and to the Serrano sociopolitical organization. The Serrano were organized into autonomous lineages occupying defined territories; however, these groups rarely identified a permanent habitation site. These groups were neither politically aligned, nor were they socially connected outside of each localized lineage (Strong 1972). For these reasons, the borders of the arbitrarily grouped Serrano peoples would vary greatly from lineage to lineage, depending upon their respective worldviews.

Studies on linguistic characteristics have indicated that the term Serrano had been academically applied to four (4) different groups, including the Serrano, Kitanemuk, Vanyume, and the Tataviam (Alliklik) (Bean and Smith 1978; Johnston 1965). The Vanyume use area has been mapped to the north of Victorville, extending from the Cajon Pass in the west, to near modern Ludlow between the Cady and Bristol Mountains (Bean and Smith 1978). The Kitanemuk and Tataviam are found within the general vicinity of the Tehachapi Mountains.

The Serrano generally spoke a language that also 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 persons. The range of this group was limited and restricted by reliable water sources.

The Spanish decimated all indigenous groups adjacent to the San Bernardino Mountains, but some Serrano survived for many years. This was due to the ruggedness of the terrain in the far eastern San Bernardino Mountains and to their dispersed population. 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 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. The term Morongo is derived from Maringa, which is a shortened form of Maringayam. This term is applied to the easternmost division of the Serrano peoples and is a generic term that incorporates all the families and lineages in the general area, including the Tumukvayam in Banning Water Canyon and Tamianutcem at Twentynine Palms (Johnston 1965).

2.3) Historic Setting

The historic period (post-contact) in southern California is commonly presented in terms of Spanish, Mexican, and American political domination. Certain themes are common to all periods, such as the development of transportation, military activities, settlement, and agriculture.

2.3.1) Spanish Period (1769 to 1821)

The first Europeans to travel in the vicinity of the project area were Spanish soldier Pedro Fages and Father Francisco Garcés. This expedition to locate deserting soldiers brought the group through the foothills of the San Jacinto Mountains and along Coyote Canyon on the southern edge of Riverside County. They then continued into the Anza Valley, the San Jacinto Valley, Riverside, and eventually into San Bernardino and the Cajon Pass. Such expeditions sparked an influx of non-natives to southern California and the first of these groups were the Spanish. Associated with the Spanish migration is the establishment of missions and military presidios along the coast of California. Between 1769 and 1823, Spanish explorers and missionaries established 21 missions, four (4) presidios, and four (4) pueblos between San Diego and Sonoma (Bean and Rawls 1983). Although none of the missions were located within modern San Bernardino County, their influence was far-reaching. Lands within the southwestern portion of modern San Bernardino County were utilized for agriculture and pasturage under the supervision of the Mission San Gabriel (Redlands 1995).

Beginning in the late 18th century, the missions began establishing Ranchos for the purpose of expanding their agricultural holdings. The establishment of the Ranchos is important to the development of the area as a center of mission activity for inland southern California and it encouraged population expansion into the region. Modern Highland is situated at the eastern edge of the San Bernardino Valley and the valley includes substantial acreage affiliated with the Rancho San Bernardino established by the Mission San Gabriel (Redlands 1995; ECORP 2006a).

In 1819, the Rancho San Bernardino was formally 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 region (Harley 1989). A decision was made to create an estancia, or a ranch headquarters, with a chapel that was occasionally visited by church fathers at the Guachama Ranchería. However, local Native American attacks forced the estancia overseers to move the headquarters from the original site to a better-protected location. The San Bernardino Asistencia was located on high ground approximately 1.50 miles to the east-southeast of the original estancia. Construction began about 1830 and was not yet finished when the project was abandoned in 1834 (Lugo 1950). The San Bernardino Asistencia (36-17534/36-2307/CA-SBR-2307H) is located approximately five (5) miles to the southwest of the project area and is listed as California Historic Landmark (CHL)-42.

2.3.2) Mexican Period (1821 to 1848)

By the early decades of the 19th century, the growth of Spanish California had come to a halt. Embroiled in the Napoleonic wars and a subsequent struggle to evade French rule, Spain was unable to effectively rule its North American colonies. In 1821, and after more than a decade of revolutionary struggle, Mexico achieved independence from Spain and California became a distant outpost of the Mexican Republic. Following Mexican Independence, the secularization of the missions and the mission holdings took place over the next decade and the former mission lands were transferred to prominent Mexican families. In 1842, the Lugo family received a land grant from the Mexican government for portions of the San Bernardino and Yucaipa Valleys. They occupied a large house and several other buildings that had been constructed at the San Bernardino Asistencia (Lugo 1950; Redlands 1995). The Highland area was not included in the land grant; however, the San Bernardino grant was located to the west of the project area and it included modern San Bernardino and Redlands (ECORP 2006a).

2.3.3) American Period (1848 to Present)

The Mexican Period formally ends in 1848, following the signing of the Treaty of Guadalupe Hidalgo. This event marked the end of the Mexican-American War and ceded the northern provinces of Mexico to the United States. The following decades saw an influx of American settlers to the region, sparked by the discovery of gold, agricultural possibilities, and land speculation. Mexican ranchos were subdivided or sold during this period, and much of the land that once constituted rancho holdings became available for settlement by immigrants to California.

Some of the first settlers in the area that would become known as East Highlands were members of the Cram family, including John, Lewis, and Henry Cram. They established their homesteads in the late 1850s and the area was initially named Cramville. Shortly after their arrival, they began experimenting with citrus agriculture and their efforts proved so profitable that other farmers in the region also began to plant orchards (Gallegos & Associates 1993; ECORP 2006a; Donahue and Suttle 2017; Quales n.d.)

By 1858, there was an increasing need for water to irrigate crops and the Cram family joined the Van Leuven family to excavate the Cram-Van Leuven Ditch. Stretching several miles from the Santa Ana River to their lands in Cramville, the ditch was the first large-scale water diversion project in the area and it lead to the establishment of citrus as the dominant crop in the Cramville region (Gallegos & Associates 1993; Highland 2006; San Bernardino 2017). This ditch is mapped as trending east-west through the central portion of the project area and it extends beyond the project area boundaries (36-6848/CA-SBR-6848H). Over the ensuing decades, the Cram-Van Leuven Ditch was continually altered and modified. It was enlarged after a flooding event in 1862 and a north trending extension was added that connected to the North Fork Ditch. This extension passed through the East Highlands Ranch founded by James S. Edwards (Gallegos & Associates 1993; ECORP 2006a).

In the 1870s, Edwards devised a plan to acquire property, access water, and further expand the citrus industry. He established the East Highlands Orange Company (EHOC) in 1893 and immediately embarked upon a process of community development and an expansion of the irrigation system. The success of the EHOC soon lead to the end of Cramville and the establishment of the Community of East Highlands (Gallegos & Associates 1993; ECORP 2006a).

During the 20th century, suburbanization of the area began to occur as early as 1943. This coincided with the establishment of the San Bernardino Army Air Depot, which is now the San Bernardino International Airport. Through this process, citrus groves were removed and replaced with residential housing and packing houses were converted to industrial uses. This change in land use occurred throughout Highland, but was slower to occur at East Highlands Ranch. The ranch lands remained primarily rural and devoted to the cultivation of citrus until the 1980s. In 1987, the Communities of East Highland, West Highland, and Highland incorporated to create the City of Highland (ECORP 2006a; Highland 2006).

2.4) History of the Cram-Van Leuven Ditch

Following the initial settlement of the East Highlands area and in an effort to irrigate crops and procure drinking water, Lewis F. Cram, Henry Cram, John Cram, and Frederick Van Leuven built an irrigation ditch in May of 1858 (DeWitt, et al. vs Van Leuven, et al. 1860; Beattie 1951; Atchley 2017; Quales n.d.) This ditch was initially called the Mesa Ditch, but it was later known as the Cram-Van Leuven Ditch (Atchley 2017). The head of the ditch was located at the mouth of the Santa Ana River canyon and it extended to City Creek (Beattie 1951). The initial construction likely included some digging at the mouth of the canyon for a diversion, but then it followed a natural overflow of the river to the lands located to the east of modern Merris Street. Thereafter, more digging was likely, following the contour of the land situated below the mesa (Atchley 2017).

The beginning of the Cram-Van Leuven Ditch was located upstream from the original headworks of the existing North Fork Ditch and the Timber Ditch. The diversion of water to the Cram-Van Leuven Ditch reduced the river flow to the other ditches and at times, there was an insufficient flow of water to satisfy the needs of the North Fork and Timber Ditches (Beattie 1951; Scott 1977). By August of 1860, the competition for water from the Santa Ana River amongst the existing ditches elicited a lawsuit. This suit was filed by the majority owners of the Timber Ditch against the owners of the Cram-Van Leuven Ditch (DeWitt, et al. vs Van Leuven, et al. 1860; Beattie 1951). The suit did not go to trial; rather, it was settled by a compromise court judgment on June 18, 1861. This judgment gave the owners of the Cram-Van Leuven Ditch a right to one-sixth of the river flow at the mouth of the canyon (Hall 1888; Beattie 1951; Atchley 2017; Quales n.d.) This suit was the first water right in the Santa Ana River basin to be adjudicated by a court (Beattie 1951).

A disastrous flood occurred in 1862 and this event had a significant effect on the San Bernardino Valley and the Santa Ana River. Prior to the flood, the river was a well-defined and narrow channel and it was lined with alder, cottonwood, sycamore, and willow trees. The flood uprooted and washed away the trees and deposited sand, gravel, and boulders in the riverbed and on adjacent lands (Beattie 1951). Following the flood, the river failed to follow a well-defined course and it flowed through several channels below the mouth of the canyon. This area was located upstream from the common point of diversion for the North Fork and Timber Ditches and the new river channels resulted in a significant water deficiency for the ditches (Scott 1977; Quales n.d.)

As a result of the water deficiency after the flood of 1862, the North Fork Ditch owners decided to extend the ditch to a new heading nearer the mouth of the canyon. They decided that the most economical manner to accomplish this task would be to use the existing Cram-Van Leuven Ditch. In 1865, they requested permission from the owners of the Cram-Van Leuven Ditch for a connection to be constructed between the two (2) ditches. As part of the agreement, the North Fork Ditch offered to enlarge the Cram-Van Leuven Ditch and share operating expenses (Beattie 1951; Scott 1977; Quales n.d.) Thus, the ditch was enlarged, a connection was completed to the east of the City Creek Wash (see Figure 8), and from this time the North Fork Ditch and the Cram-Van Leuven Ditch diverted water via a common point at the mouth of the canyon (Scott 1977). As a result of this development, the Cram-Van Leuven Ditch located upstream from the connection with North Fork Ditch also became known as North Fork Ditch (Hall 1888; Scott 1977). During the ensuing years, the ditches were extended and new distributaries were built as irrigation needs increased and water-rights were divided and sold (Hall 1888).

Throughout the late 1860s and 1870s, agricultural development continued to occur in the San Bernardino Valley. The lands between Base Line Road and City Creek were planted in deciduous fruits and other crops, such that the majority of the land in this area was under cultivation during the early 1880s (Scott 1977). In 1879, E. G. Judson and Frank E. Brown became interested in the potential of the land above the Cram-Van Leuven Ditch and the North Fork Ditch for growing oranges. They also built a fruit dryer near the Cram Homestead (36-4220/CA-SBR-4220H/CPHI-31) and began working with peaches, apricots, and some apples (Beattie 1951; Quales n.d.) Judson and Brown then purchased the claims of settlers living near Plunge Creek and secured options on other parcels of land in the vicinity. To bring water to the benchland, Judson and Brown met several times with owners of the North Fork and Cram-Van Leuven Ditches and offered to build a new high-line ditch at a cost of $1,000. The North Fork Ditch owners opposed the plan, but by 1880, several benchland area owners had purchased lowland water rights and requested the transfer of those rights to the benchland. In the spring of 1881, Judson and Brown and the owners of North Fork Ditch rights signed an agreement, exclusive of the Cram-Van Leuven owners (Hall 1888; Scott 1977). This agreement allowed for the construction of a high-line ditch to serve the benchlands, which would become known as the North Fork Canal (Scott 1977; Quales n.d.)

Construction of the North Fork Canal commenced in 1881 and it was completed in early 1882. The canal departed from the original Cram-Van Leuven Ditch approximately four (4) miles to the east of the project area (see Figure 8; Scott 1977; Quales n.d.) After this point, the Cram-Van

Leuven Ditch owners ran their water in the new high-line canal built by Judson and Brown to a point called the Cram and Van Leuven Divide. The divide was located about four (4) miles below the mouth of the canyon and from this point, they built a connecting ditch to their old ditch located below the bench (Beattie 1951). The Cram-Van Leuven Divide or the connecting line of 1882-1883 (36-6850/CA-SBR-6850H) is located to the west of the project area. The advent of the high-line ditch rendered a portion of the Cram-Van Leuven Ditch unnecessary for watering lands in the area. Specifically, the segment located between the North Fork Canal departure in the east and the Cram-Van Leuven Divide in the west became unnecessary. Thus, once the North Fork Canal was built and after about 1881, only the Cram-Van Leuven Divide was needed to bring water to the East 3rd Street lands (Atchley 2017).

In the following years, numerous changes occurred with regard to the owners of the Santa Ana River water-rights and the control of the water flows. In 1885, the North Fork owners chose to incorporate their water rights and they established the North Fork Water Company (Beattie 1951). The Cram-Van Leuven Ditch owners were not included in this deal and they instead remained affiliated with the portion located upstream from the North Fork Canal (Quales n.d.) In September of 1883, the Bear Valley Land and Water Company was established and they gained control of the Santa Ana River water. The Big Bear Dam was constructed in 1884 and this affected those with water-rights in the North and South Fork due to the availability of water distribution. Thereafter, an agreement was signed between the North Fork Water Company, the Cram-Van Leuven owners, and the Bear Valley Land and Water Company on May 5, 1885. In this agreement, the amount of water received for the entire year was set and it provided the first definite schedule for water users measured in inches of water (Beattie 1951). In this manner, the North Fork was able to secure their water supply in relatively dry months and 50 percent more land was able to be irrigated than before the agreement (Quales n.d.)

Eventually, the Cram and Van Leuven interests incorporated into a separate company in 1890 and they continued to operate for the next 35 years. In March of 1925, the Cram-Van Leuven owners moved to completely merge with the North Fork Water Company and all Cram-Van Leuven stock was transferred to the North Fork (Beattie 1951; Quales n.d.) Thus, while the necessity waned for the central portion of the Cram-Van Leuven Ditch after about 1881, its construction allowed for the importation of water to the Cramville/East Highlands area and directly affected the development patterns through an increase in water availability and reliability.

2.5) Location of the Cram-Van Leuven Ditch in the Vicinity of the Project Area

The Cram-Van Leuven Ditch (36-6848/CA-SBR-6848H) was first identified in the project area by Gallegos & Associates in 1993 (see Figure 11; Gallegos & Associates 1993). This identification was based on the mapping of the Old North Fork Ditch in the project area on the USGS 1899 Redlands, CA map (see Figure 7). However, determining the actual location of the Cram-Van Leuven Ditch as constructed in 1858; its configurations when upgraded, as needed; its later permutations when combined with the North Fork Ditch; and where the ditch was located after it fell out of necessary use post-1881 is a complicated endeavor. This is due to a lack of maps dating to the period of initial construction, an extensive flooding event in 1862 that changed the flow of the Santa Ana River and affected the ditch, and an additional heavy flooding event in 1867. In addition, there is a time delay between the date when portions of the ditch became unnecessary and were effectively replaced by the high-line North Fork Canal (about 1881) and the earliest available maps showing the ditch (late 1880s and early 1890s).

In an effort to identify the location of the Cram-Van Leuven Ditch in Section 2 of Township 1 South, Range 3 West, L&L contacted several local libraries and historians to obtain maps and information. While there is no map associated with the ditch on-file at the San Bernardino County Historical Archives (SB County 2017), L&L did obtain numerous maps of irrigation features in the Highland area from other resources. The earliest available map dates to 1888 and consists of the San Bernardino Sheet of an irrigation map prepared by the California State Engineering Department. This map depicts the Old North Fork Ditch in the immediate vicinity of the project area. The Old North Fork Ditch is an alternative name for the Cram-Van Leuven Ditch and refers to the combined ditch that existed following the flood of 1862 and after the two (2) ditches were connected in 1865 (Scott 1977). In the 1888 map, the Old North Fork Ditch is shown to the north of the project area. This map additionally shows a very short segment of a ditch labeled as the C.&V.L. Ditch to the west of the project area and within the City Creek Wash (CSED 1888; Figure 5).

A map dating to 1891 and depicting irrigation systems in the east end of the San Bernardino Valley was obtained from the HAHS collection of research resources on water history. This map is similar to the 1888 map and it shows the Old North Fork Ditch to the north of the project area. This map additionally depicts a drainage feature traversing the northern edge of the project area (HAHS 2017; Figure 6).

L&L also reviewed numerous archival aerial photographs and topographic maps (NETR 2017).

The earliest maps date to the late 1800s and the very early 1900s. In 1895, the ditch is not shown or labeled and instead, a water feature is depicted that traverses the project area and extends between Plunge Creek in the north and the Santa Ana River in the south (NETR 2017). The next available topographic map is the USGS 1899 Redlands, CA map. On this map, the Old North Fork Ditch is shown trending much further south than on the 1888 and 1891 irrigation maps and it is depicted as extending into the project area (Figure 7). This map represents the first time that the ditch is shown in the project area on a primary resource. This map may show a mapping error or an altered path or flow for the Old North Fork Ditch, as this map was generated almost 20 years after the ditch went out of necessary use post-1881. The ditch continues to be observable on topographic maps until 1955, when the ditch is no longer depicted and an unnamed, blue-line water feature is shown trending east-west across the northern edge of the project area. The water feature that has been recorded as 36-6848/CA-SBR-6848H appears on topographic maps beginning in 1969 and is observable on aerial photographs as early as 1938 (NETR 2017).

Several reports were also obtained during the research for 36-6848/CA-SBR-6848H that contain maps. In 1977, M. B. Scott compiled a history of water facilities in the Santa Ana River Basin. In this document, he produced a map documenting ditches and canals at the eastern end of the San Bernardino Valley that was based on the compilation of his research on water companies, diversions, and water rights. According to this map, the Cram-Van Leuven Ditch extends from the Santa Ana Canyon, to the Cram homestead in Section 3 (36-4220/CA-SBR-4220H/CPHI-31), and on to City Creek Wash. The ditch was connected to the North Fork Ditch after the flood of 1862 and at a point located immediately to the east of City Creek Wash. In the vicinity of the project area, the original Cram-Van Leuven Ditch (1858) is mapped as trending east-west to the north of modern Greenspot Road and to the north of the project area (Scott 1977; Figure 8).

Another map available from the HAHS shows the location of canals and ditches used in the early development of the east San Bernardino Valley water supply. This map informs the research work completed by K. Quales (n.d.) for the North Fork Canal and does not appear to have a date. This map depicts the Cram-Van Leuven Ditch and the later North Fork Extension to the north of Greenspot Road (Quales n.d.; Figure 9). However, this map is potentially problematic because it depicts Greenspot Road connecting into 3rd Street, rather than connecting into 5th Street. For this reason, it is difficult to ascertain the exact placement of the project area on this map.

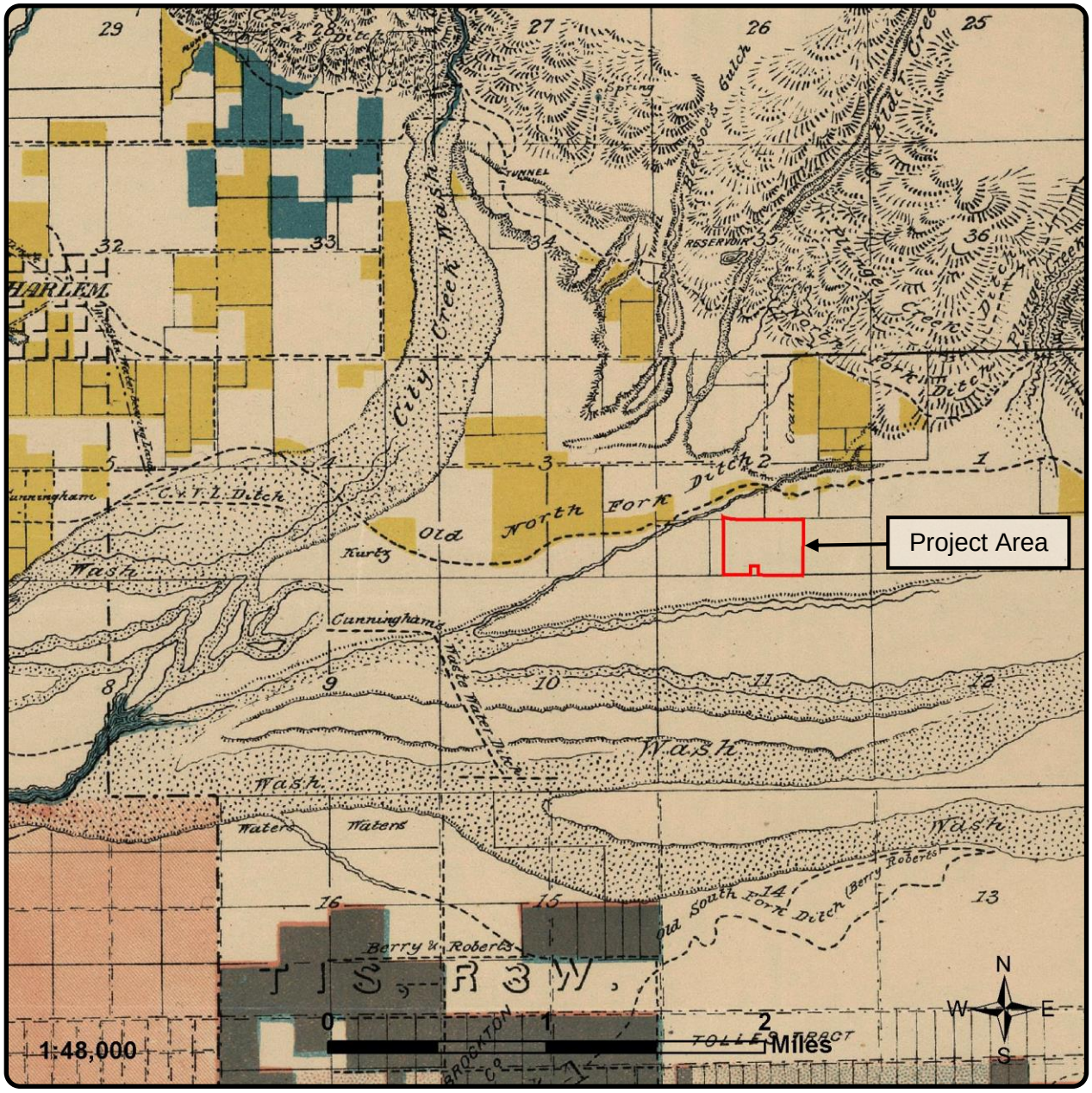

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Figure 5
1888 Detail Irrigation Map, San Bernardino Sheet

CSED 1888 (California State Engineering Department [CSED]. 1888. Detail Irrigation Map, San Bernardino Sheet. On-file at the A. K. Smiley Library Heritage Room, Redlands, California.)

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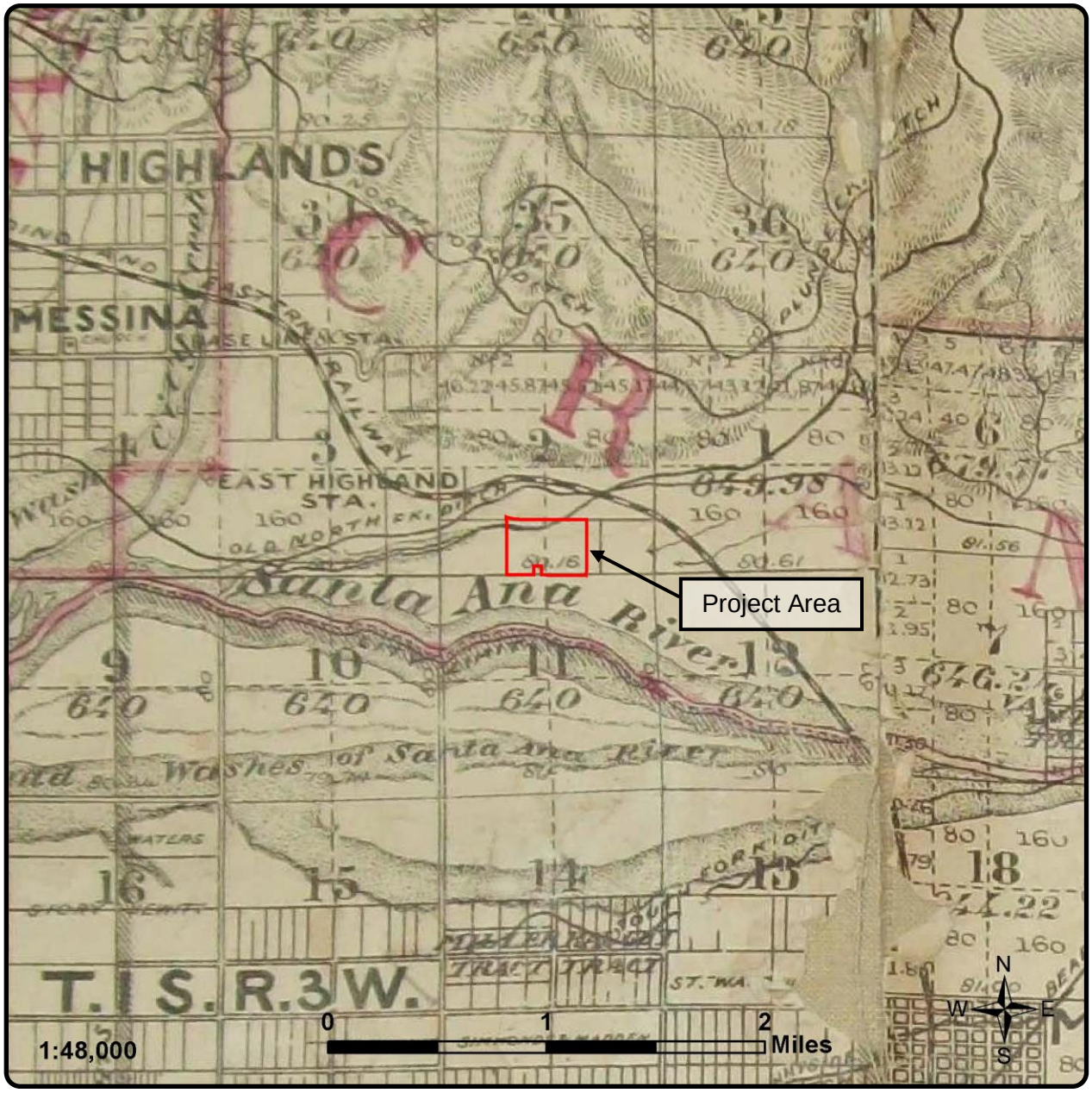

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Figure 6
1891 Irrigation Systems Map

HAHS 2017 (Highland Area Historical Society [HAHS]. 2017. Research Resources of Water History in the Highland Area. Website accessed October 2017. http://www.highlandhistory.org/waterhistory.php)

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San Bernardino County, California

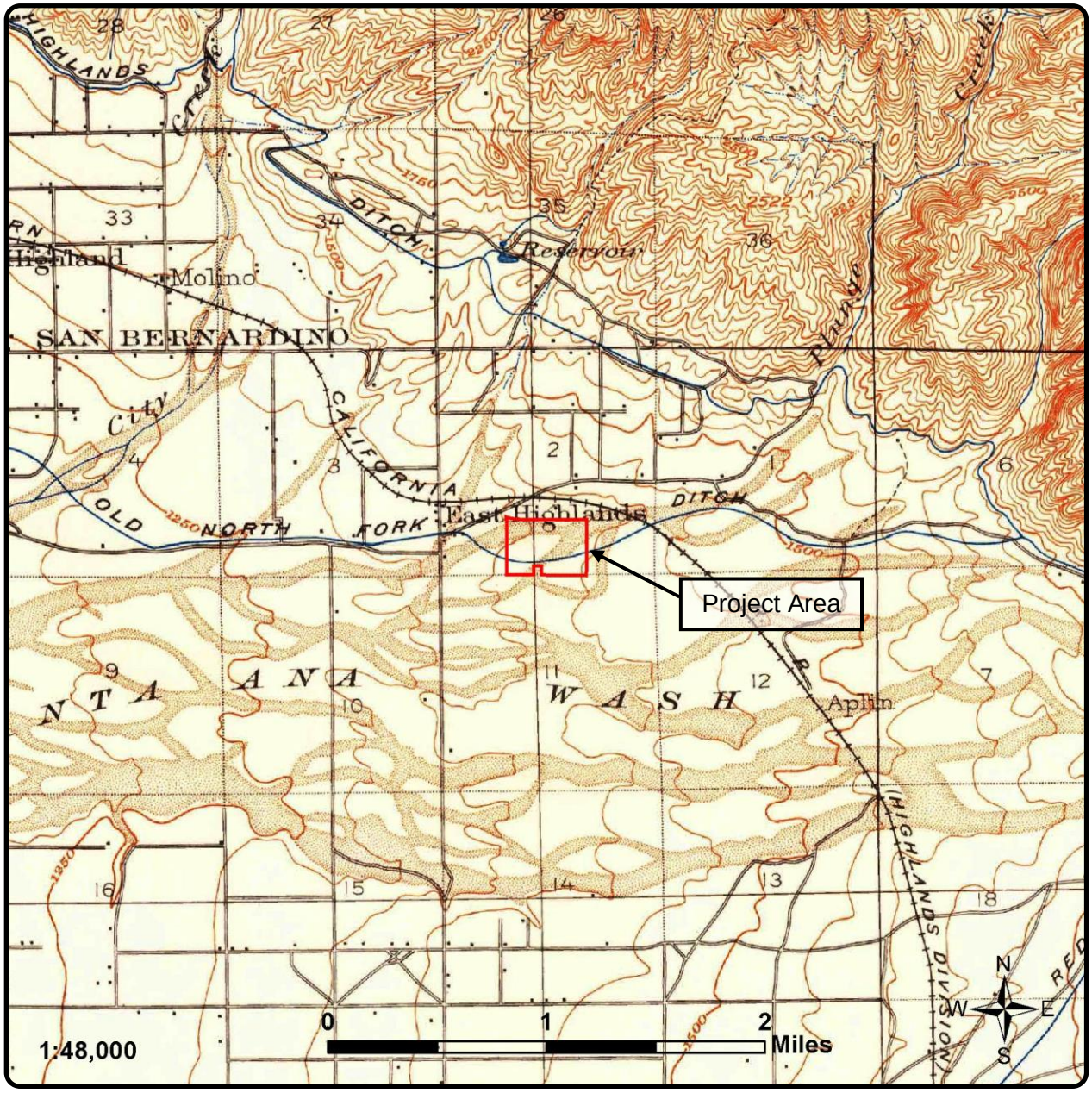

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Figure 7
USGS 1899 Redlands, CA Topographic Map
USGS: https://store.usgs.gov/map-locator

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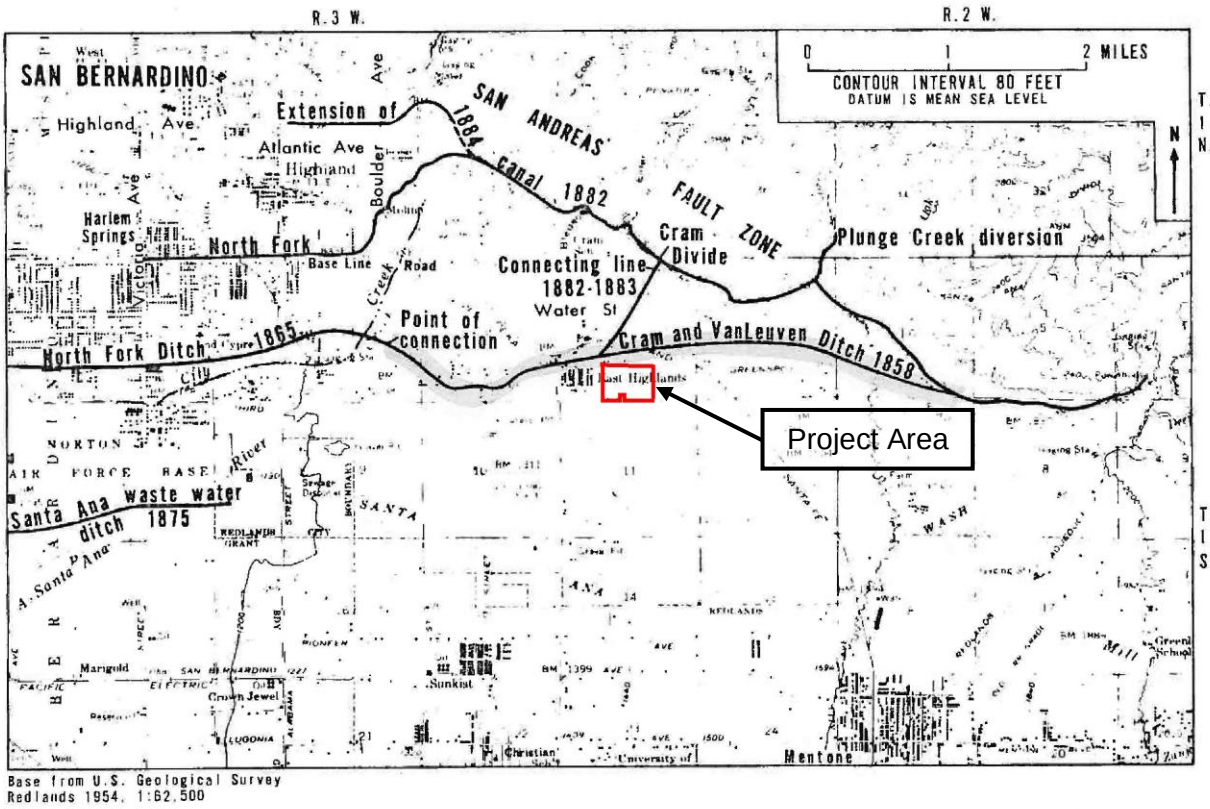

Source: Scott 1977 (Scott, M. B. 1977. Development of Water Facilities in the Santa Ana River Basin, California, 1810-1968: A Compilation of Historical Notes Derived from Many Sources Describing Ditch and Canal Companies, Diversions, and Water Rights. Report #77-398. On-file at the Feldhym Library California Room, San Bernardino, California.)

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Figure 8

Cram and Van Leuven Ditch and North Fork Canal Map

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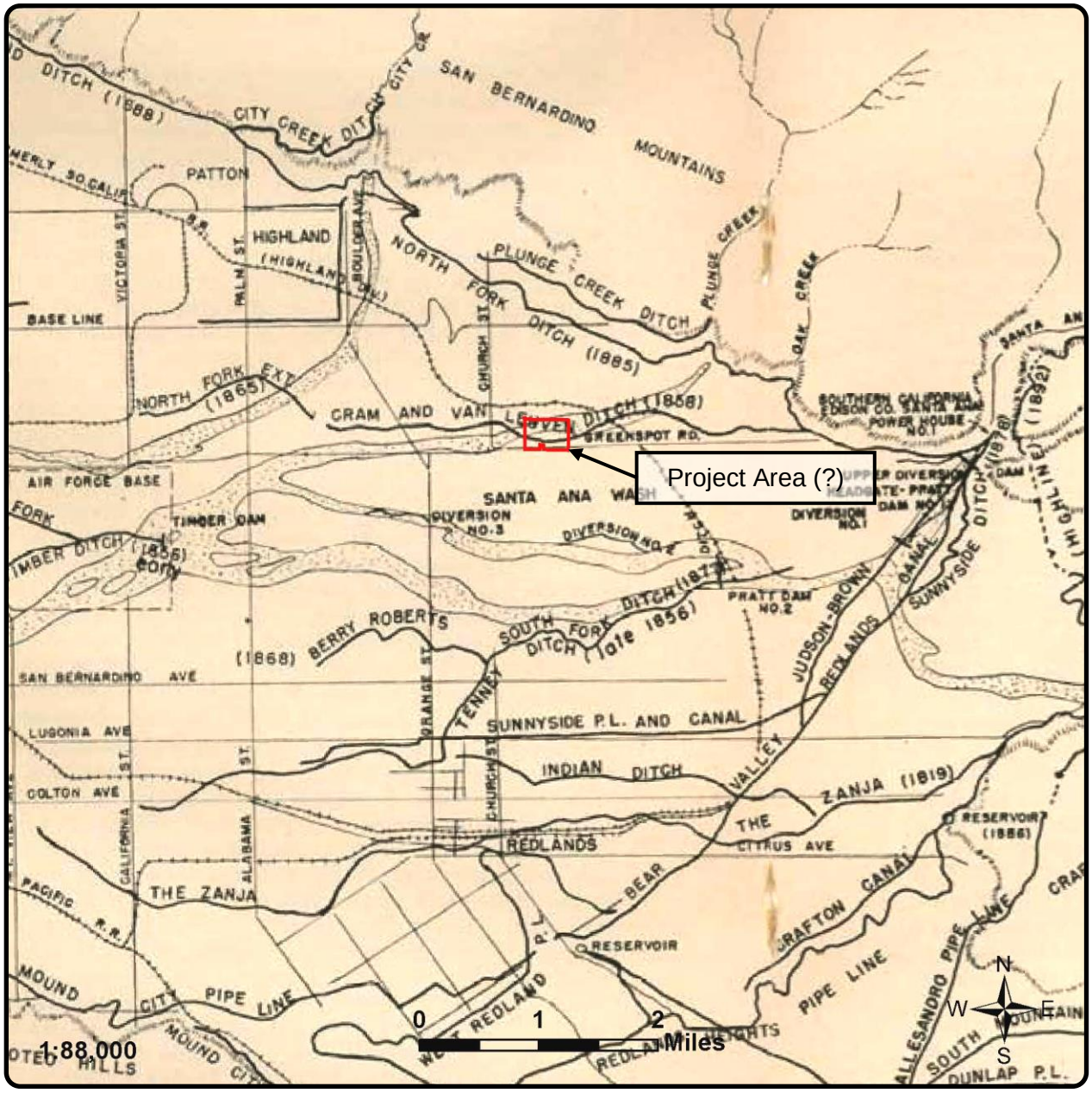

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Figure 9

Canals and Ditches Map

Quales n.d. (Quales, K. n.d. A Brief History of the North Fork Canal, San Bernardino, CA. Electronic document accessed October 2017. http://www.highlandhistory.org/Water_History/Quarles_FinalReport.pdf)

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Based on the earliest available maps focused on irrigation features (1888 and 1891), the Old North Fork Ditch/Cram-Van Leuven Ditch was located in the northern half (N ½) of the southern half (S ½) of Section 2 of Township 1 South, Range 3 West in the vicinity of the project area. This places the ditch to the north of modern Greenspot Road and outside the current project area. Later USGS maps dating to 1899 and into the early 20th century begin to depict the Old North Fork Ditch in the project area. This may be a mapping error where a drainage feature was identified as part of the ditch or a more southerly route for this portion of the ditch that came into use sometime after 1891.

3.0) REGULATORY SETTING AND METHODS

3.1) Regulatory Setting

Government agencies, including 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 an agency. Under CEQA, public agencies must consider the effects of their actions on both historical resources and unique archaeological resources. Pursuant to Public Resources Code (PRC) Section 21084.1, a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. Section 21083.2 requires agencies to determine whether proposed projects would have effects on unique archaeological resources.

Historical resource is a term with a defined statutory meaning (see PRC, Section 21084.1 and CEQA Guidelines, Section 15064.5(a) and (b)). The term embraces any resource listed in or determined to be eligible for listing on the CRHR. The CRHR includes resources listed in or formally determined eligible for listing in the National Register of Historic Places (NRHP), as well as some CHLs and California Points of Historical Interest (CPHIs).

Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be historical resources for purposes of CEQA unless a preponderance of evidence indicates otherwise (PRC, Section 5024.1 and California Code of Regulations, Title 14, Section 4850). Unless a resource listed in a survey has been demolished, lost substantial integrity, or there is a preponderance of evidence indicating that it is otherwise not eligible for listing, a lead agency should consider the resource to be potentially eligible for the CRHR.

In addition to assessing whether historical resources potentially impacted by a proposed project are listed or have been identified in a survey process, lead agencies have a responsibility to evaluate them against the CRHR criteria prior to making a finding as to a proposed project's impacts to historical resources (PRC, Section 21084.1 and CEQA Guidelines, Section 15064(a)(3)). The following criteria were used to evaluate the significance of potential impacts to cultural resources for the proposed project. An impact would be considered significant if the proposed project affects the qualities that render a resource eligible for listing in the NRHP or the CRHR.

3.1.1) Federal Significance Criteria

Evaluation of a resource for listing on the NRHP requires that specific elements be addressed: the criteria of significance and the integrity of the property.

Regulations found in Title 36 Code of Federal Regulations (CFR) Part 60.4 list the criteria for evaluating site significance for listing on the NRHP. Following the standards and guidelines, resources are considered significant if they meet at least one (1) of four (4) significance criteria (A-D), retain integrity, and are at least 50 years old. In rare cases, sites may be considered significant if they are of exceptional value and do not meet any other requirements. The criteria for determining the significance of a property are as follows:

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of significant persons in our past; or

C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. That have yielded or may be likely to yield information important in prehistory or history.

In addition to meeting one (1) of the significance criteria listed above, a property must also demonstrate a sufficient degree of integrity so that it is capable of conveying such significance (Hardesty and Little 2000). The seven (7) elements of integrity identified by the NRHP include location, design, setting, materials, workmanship, feeling, and association (NPS 1991).

3.1.2) State Significance Criteria

Given that the CRHR was modeled after the NRHP, it has very similar eligibility criteria. Generally, to be considered significant under CEQA, a resource must possess integrity and demonstrate eligibility under at least one of the following criteria (California Code of Regulations 15064.5):

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 has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

As noted above, CEQA also requires lead agencies to consider whether projects will impact unique archaeological resources. PRC Section 21083.2(g) states that a unique archaeological resource is an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

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

Treatment options under Section 21083.2 include activities that preserve such resources in place and in an undisturbed state. Other acceptable methods of mitigation under Section 21083.2 include excavation and curation, or study in place without excavation and curation (if the study finds that the artifacts would not meet one [1] or more of the criteria for defining a unique archaeological resource).

3.1.3) Local Regulations

The City of Highland has addressed cultural resources in their Municipal Code and GP (Highland 2006).

City of Highland Municipal Code

Chapter 16.32 of the Municipal Code addresses Historic and Cultural Preservation in the City, establishes the Historic and Cultural Preservation Board (Section 16.32.030), and provides the local criteria for cultural resource designation (Section 16.32.050). Any improvement, natural feature, or site may be nominated as a cultural resource by the Historic and Cultural Preservation Board of the City pursuant to Section 16.32.060 if it meets the criteria for listing on the NRHP or the following:

A. It exemplifies or reflects special elements of the City's cultural, social, economic, political, aesthetic, engineering, architectural, or natural history;

B. It is identified with persons or events significant in local, state, or national history;

C. It embodies distinctive characteristics of a style, type, period, or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship;

D. It is representative of the work of a notable builder, designer, or architect;

E. It contributes to the significance of an historic area, being a geographically definable area possessing a concentration of historic or scenic properties or thematically related grouping of properties which contribute to each other and are unified aesthetically by plan or physical development;

F. It has a unique location or singular physical characteristics or is a view or vista representing an established and familiar visual feature of a neighborhood, community, or the City of Highland;

G. It embodies elements of architectural design, detail, materials, or craftsmanship that represent a significant structural or architectural achievement or innovation;

H. It is similar to other distinctive properties, sites, areas, or objects based on a historic, cultural, or architectural motif;

I. It reflects significant geographical patterns, including those associated with different eras of settlement and growth, particular transportation modes, or distinctive examples of park or community planning; and/or

J. It is one (1) of the few remaining examples in the City, region, state, or nation possessing distinguishing characteristics of an architectural or historical type of specimen.

City of Highland General Plan

The GP provides guidance for the preservation of historic built-environment resources in the Land Use Element, while archaeological resources are addressed in the Conservation and Open Space Element (Highland 2006). Information about development in and near historic areas, as well as adaptive reuse of historic structures, can be found in Section 2 of the GP (Land Use Element) and the City has established the following Goal and Policies for

archaeological resources:

Goal 5.8: Protect, document, and minimize disruption of sites that have archaeological significance.

Policies

1. Avoid significant impacts in all new developments within areas determined to be archaeologically sensitive through the following measures:

- Conduct an archaeological records search with the Archaeological Information Center (AIC) [sic] in order to identify potential on-site sensitivities;
- In cooperation with a qualified archaeologist, develop mitigation measures for projects found to be located in or near sensitive areas or sites; and
- Require that environmental review be conducted for all applications within the area designated as archaeologically sensitive, including but not limited to grading, earth moving and stockpiling, and building and demolition permits.

2. Include the following statement as a condition of approval on all development projects:

- "If cultural resources are discovered during project construction, all work in the area of the find shall cease, and a qualified archaeologist shall be retained by the project sponsor to investigate the find, and to make recommendations on its disposition. If human remains are encountered during construction, all work shall cease and the San Bernardino County Coroner's Office shall be contacted pursuant to Health and Safety Code provisions."

3. Coordinate with the SMBMI when proposals for development projects are filed within the Areas of Sensitivity for Archaeological Resources (Illustrated in Figure 5.2 of the GP) through the following actions:

- Notify the SMBMI via notification mailings about proposed projects in archaeologically sensitive areas; and
- Invite comments and suggestions to be forwarded to City staff and appropriate decision makers to aid the preservation and development review processes.

3.2) Methods

The primary purpose of this CRA is to determine whether cultural resources more than 45 years old are located within or near the project area and whether these resources will be or could be impacted by the proposed project. To accomplish this, research and a pedestrian survey were conducted. The results of these efforts assist in determining if resources are present and, if present, considered eligible for inclusion in the NRHP, CRHR, or local designation. This allows for the consideration of the impacts of the proposed project on cultural resources, including resources considered significant under the parameters of the Regulatory Setting. The assessment included the following tasks:

- Review of regional history and previous cultural resource sites and studies within the project area and the vicinity.
- Examination of archival topographic maps and aerial photographs for the project area and the general vicinity.
- Research the Cram-Van Leuven Ditch (36-6848/CA-SBR-6848H) via inquiries for maps and associated documents at various locations, including local libraries and the San Bernardino County Archives.
- Request of an NAHC SLS for the project area and contact with Tribal groups and individuals as named by the NAHC.
- Notification and information scoping efforts with the SMBMI pursuant to Goal 5.8, Policy 3 of the City of Highland GP, as the project area is located in an Area of Sensitivity for Archaeological Resources as illustrated in Figure 5.2 of the GP (Highland 2006).
- Complete site visits to relocate previously recorded resources in the project area and collect information for DPR 523 Update Forms.
- Conduct a non-collection Phase I pedestrian survey of the project area.
- Prepare DPR 523 Update Forms for all previously recorded resources located in the project area (36-6848/CA-SBR-6848H, 36-6853/CA-SBR-6853H, 36-7434/CA-SBR-7434H, 36-12264/CA-SBR-12205H, and 36-12265).
- Submit all DPR 523 Update Forms to the SCCIC for their files.
- Evaluate the potential for the proposed project to result in significant impacts to cultural resources.
- Develop recommendations associated with impacts to cultural resources following the guidelines as outlined in the Regulatory Setting.

3.2.1) Cultural Resources Records Search

A records search was conducted by L&L Archaeologist William R. Gillean on July 6, 2017 at the SCCIC (Appendix B). The records search consisted of a check for previously recorded cultural resource sites and isolates and previous cultural resources studies on or within a one-mile radius of the project area. In addition, the records search included a review of the NRHP, Archaeological Determinations of Eligibility (ADOE), and the OHP Historic Property Data File (HPDF).

3.2.2) Historic Records Review

Information available from the BLM was reviewed, including maps and GLO records pertinent to the project area (BLM 2017). Archival topographic maps and aerial photographs containing the project area were also reviewed (NETR 2017). In addition, research was completed for the Cram-Van Leuven Ditch (36-6848/CA-SBR-6848H) at the A.K. Smiley Library Heritage Room in Redlands, the Feldhym Library California Room in San Bernardino, the San Bernardino County Historical Archives, and the HAHS website. L&L also contacted Tom Atchley of the Redlands Historical Society at the recommendation of staff from the San Bernardino County Historical Archives. Additional contact was made via email with Nancy Alexander of the HAHS at the recommendation of Mr. Atchley.

3.2.3) Native American Coordination

A request was sent to the NAHC asking for an SLS and a contacts list on June 28, 2017. A response was received on June 29, 2017 (Appendix D). The NAHC contacts were sent project location information and were asked for their potential concerns regarding the project area. The information scoping packages were sent to the 19 contacts listed by the NAHC on July 6, 2017 (Appendix E). These packages included a letter to the SMBMI in accordance with Goal 5.8, Policy 3 of the City of Highland GP (Highland 2006). As of the date of this report, one (1) response has been received from the SMBMI. All L&L coordination efforts are summarized in Table 3 of this report and copies of correspondence are included in Appendix E.

3.2.4) Pedestrian Survey and Site Visits

The primary purpose of the pedestrian survey is to locate and document previously recorded or new cultural resource sites or isolates that are more than 45 years old within the project area, and to determine whether such resources will be or could be impacted by project

implementation. The pedestrian survey was completed on July 18, 2017 via east-west trending transects at intervals of no more than 15 meters. During the survey, digital photographs and notes were taken to characterize conditions in the project area.

Previously recorded resource locations for 36-6848/CA-SBR-6848H, 36-6853/CA-SBR-6853H, 36-7434/CA-SBR-7434H, 36-12264/CA-SBR-12205H, and 36-12265 were visited on July 11, 2017 and October 3, 2017 and were documented through photographs and notes. Location information was also obtained for all resources via Universal Transverse Mercator (UTM), North American Datum of 1983 (NAD83). Data collected in the field were used to record resources onto DPR 523 Update Forms.

If previously unrecorded resources were detected during the survey or the site visits, they would be measured, photographed, and mapped in the field. All data obtained in the field would be used to record resources onto new DPR 523 Forms.

4.0) RESULTS

4.1) Cultural Resources Records Search

L&L Archaeologist William R. Gillean conducted the records search on July 6, 2017 at the SCCIC (Appendix B). The records search was completed for the project area and all lands found within one mile. The results indicated that 100 percent of the project area has been previously inventoried via two (2) reports (SB-2828/Gallegos & Associates 1993; SB-5671/ECORP 2006a). In addition, a total of five (5) resources have been mapped within or partially within the project area:

- 36-6848/CA-SBR-6848H (Cram-Van Leuven Ditch)
- 36-6853/CA-SBR-6853H (Historic Refuse Scatter)
- 36-7434/CA-SBR-7434H (Historic Refuse Dump)
- 36-12264/CA-SBR-12205H (Historic Refuse Scatter)
- 36-12265 (Historic Citrus/Poultry Ranching Complex)

The results additionally revealed that a total of 39 resources have been recorded within the one mile search radius. Of these resources, five (5) are located in the project area, nine (9) are located within 0.25 mile of the project area, five (5) are located within 0.25 and 0.50 mile of the project area, and 20 are located between 0.50 mile and one mile of the project area.

The identified resources consist entirely of historic age resources, including 37 historic sites, structures, and buildings and two (2) historic isolated finds. The resources are predominately refuse scatters (n=18) and irrigation complexes or features (n=10). The refuse scatters are generally domestic in nature and consist of cans, ceramics, glass, and other items dating between the late 1800s and the modern era, while the irrigation complexes include a variety of ditches, flumes, and other features. Other historic resources consist of refuse scatters in association with foundation remains (n=2) or in association with irrigation features (n=1); a bridge (n=1); the remains of agricultural properties with associated residences (n=3); the Cram Ranch and House location (n=1); and the Cram Schools location (n=1). The isolated finds consist of a can (n=1) and a fragment of solarized glass (n=1). These previously recorded resources and their locations relative to the project area are outlined below in Table 1.

Table 1. Previously Recorded Cultural Resources Located Within One Mile of the Project Area

Resource Number	Recorder Name and Date	Resource Description	Within ~One to 0.50 Mile Radius	Within ~0.50 to 0.25 Mile Radius	Within ~0.25 Mile Radius	Within Project Area?
36-4220/CA-SBR-4220H/CPHI-31	G. Teal ,1980	Historic: The Cram Ranch and House. This resource consists of the first homestead in the East Highlands area, established by the John Cram family. The Crams planted the first orange groves in the Highland area and assisted in establishing the citrus industry in the region. The house reportedly burned down in 1982.	●	—	—	No
36-6068/CA-SBR-6068H	R. Hampson, M. Doyle, R. Brown, and D. Adams of Greenwood and Associates, 1987	Historic: This site consists of a small scatter of domestic debris.	●	—	—	No
36-6073/CA-SBR-6073H	Originally recorded by R. Hampson, M. Doyle, and R. Brown of Greenwood and Associates, 1987 Updated by M. Pritchard-Parker, H. Peterson, and A. Delu of LSA Associates, Inc. (LSA), 1994 and D. McDougall and D. Bircheff of Applied EarthWorks, Inc., 1999	Historic: This site consists of five (5) historic debris loci possibly associated with a historic residence or other structure. Research completed in 1999 at Loci 1 and 2 indicated that the deposits likely reflected intermixed and unrelated materials deposited over several decades in the 20th century. These deposits appeared to be the result of long-term refuse disposal activities in the area.	—	●	—	No
36-6074/CA-SBR-6074H	J. Wishner, R. Brown, and P. Easter of Greenwood and Associates, 1987	Historic: A single episode domestic debris disposal consisting of cans, ceramics, and glass.	●	—	—	No
36-6075/CA-SBR-6075H	M. Doyle, D. Adams, J. Schmidt, S. Wakefield, and R. Brown of Greenwood and Associates, 1987	Historic: This site consists of five (5) concentrations of domestic debris resulting from multiple dumping episodes.	●	—	—	No
36-6076/CA-SBR-6076H	S. Wakefield, J. Wishner, D. Adams, M. Doyle, R. Brown, R. Hampson, and J. Schmidt of Greenwood and Associates, 1987	Historic: Three (3) concentrations of domestic debris resulting from multiple dumping episodes.	●	—	—	No
36-6078/CA-SBR-6078H	G. Romani, J. Schmidt, S. Wakefield, P. Easter, and J. Wishner of Greenwood and Associates, 1987	Historic: A stone foundation with an associated refuse scatter. The refuse appears to date to the 1930s and 1940s.	●	—	—	No

Resource Number	Recorder Name and Date	Resource Description	Within ~One to 0.50 Mile Radius	Within ~0.50 to 0.25 Mile Radius	Within ~0.25 Mile Radius	Within Project Area?
36-6079/CA-SBR-6079H	G. Romani, J. Schmidt, S. Wakefield, and J. Wishner of Greenwood and Associates, 1987	Historic: A domestic refuse scatter and a power pole. The refuse appears to date between the late 19th century and early 20th century; however, modern refuse was also observed at the site.	—	●	—	No
36-6080/CA-SBR-6080H	Originally recorded by G. Romani, J. Schmidt, S. Wakefield, and J. Wishner of Greenwood and Associates, 1987 Updated by A. Belcourt of ICF International, 2016	Historic: A domestic debris scatter consisting of glass, ceramics, and cans. This site could not be relocated during a study completed in 2016.	—	●	—	No
36-6081/CA-SBR-6081H	G. Romani, J. Schmidt, S. Wakefield, and J. Wishner of Greenwood and Associates, 1987	Historic: A sparse domestic debris scatter, mainly consisting of cans.	●	—	—	No
36-6082/CA-SBR-6082H	G. Romani, J. Schmidt, S. Wakefield, and J. Wishner of Greenwood and Associates, 1987	Historic: This site consists of a sparse refuse scatter resulting from a single dumping episode or short-term occupation.	●	—	—	No
36-6083/CA-SBR-6083H	R. Hampson and J. Wishner of Greenwood and Associates, 1987	Historic: A sparse scatter of domestic debris dating to the late 19th century and early 20th century.	●	—	—	No
36-6087/CA-SBR-6087H	J. Sorenson, K. Vander Veen, M. Imwalle, and G. Toren of Greenwood and Associates, 1987	Historic: Three (3) refuse scatters containing domestic debris.	●	—	—	No
36-6088/CA-SBR-6088H	J. Sorenson, K. Vander Veen, M. Imwalle, and G. Toren of Greenwood and Associates, 1987	Historic: The remains of a ranch or homestead. This site includes the remains of a residence, the foundation of an outbuilding, walkways, driveways, and refuse.	●	—	—	No
36-6089/CA-SBR-6089H	J. Sorenson, K. Vander Veen, M. Imwalle, and G. Toren of Greenwood and Associates, 1987	Historic: A refuse scatter consisting of cans, ceramics, and glass.	●	—	—	No
36-6848/CA-SBR-6848H	Originally recorded by G. Romani, G. Head, N. Kaptain, and T. Webb of Greenwood and Associates, 1990 Updated by J. McKenna of	Historic: The Cram-Van Leuven Ditch. This resource consists of an irrigation ditch constructed in 1858 by members of the Cram and the Van Leuven families. It connected the mouth of the Santa Ana Canyon with the Cram and Van Leuven lands located at the base of the East Highlands bench. This ditch was one (1) of the earliest irrigation systems emerging from the	●	●	●	Yes. This resource traverses the central portion of the project area and trends east-west. It was relocated during the

Resource Number	Recorder Name and Date	Resource Description	Within ~One to 0.50 Mile Radius	Within ~0.50 to 0.25 Mile Radius	Within ~0.25 Mile Radius	Within Project Area?
	McKenna, et al., 1992; J. Eighmey, I. Strudwick, R. Phillips, P. McHenry, J. Boughton, and R. Collett of Gallegos & Associates, 1993; and R. Mason and C. Cotterman of ECORP Consulting, Inc. (ECORP), 2006	Santa Ana Canyon. It was also the subject of the first court decision addressing water rights in the Upper Santa Ana River in 1861. This resource was originally recorded in 1990 as a segment located to the west of Church Street and an update completed in 1992 addresses a possible portion of the ditch located to the east of the project area. The portion of the ditch found in the project area was addressed by updates completed in 1993 and 2006. In the project area, the ditch is described as unlined and lacking dams or diversions. In 1993, this resource was described as damaged by numerous flooding episodes. Nonetheless, it was recommended for avoidance during future development, if feasible. However, if avoidance was not possible, then recordation was considered sufficient to mitigate impacts and no further work was recommended (Gallegos & Associates 1993). This resource was relocated in 2006. At this time, the ditch was described as likely eligible for the CRHR under Criteria 1 and 2; however, its integrity was potentially compromised. It was recommended that the entirety of the ditch be assessed in order to more accurately address the integrity of the segment located in the project area (ECORP 2006a). The Cram-Van Leuven Ditch is listed in the HPDF as a resource that has been determined ineligible for the NRHP by consensus through the Section 106 process. In addition, this resource has not been evaluated for the CRHR or for local listing (NRS 6Y).				current study.
36-6849/CA-SBR-6849H	G. Romani, G. Head, N. Kaptain, and T. Webb of Greenwood and Associates, 1990	Historic: An irrigation complex consisting of flumes, drains, standpipes, and earthen canals.	—	—	●	No
36-6850/CA-SBR-6850H	G. Romani and N. Kaptain of Greenwood and Associates, 1990	Historic: A connecting ditch for the Cram-Van Leuven Ditch and the North Fork Ditch constructed in 1882-1883. This resource was recorded as a small segment located to the west of the project area in 1990. No other portions of the resource have been addressed by survey or updates. Nonetheless, the SCCIC base maps depict this resource in its assumed original location, which shows the ditch	—	—	●	No. However, this resource may have trended southwest-northeast near the northwestern corner of the project area. This resource was not

Resource Number	Recorder Name and Date	Resource Description	Within ~One to 0.50 Mile Radius	Within ~0.50 to 0.25 Mile Radius	Within ~0.25 Mile Radius	Within Project Area?
		extending near the northwestern corner of the project area.				observed in the project area during the survey or during a historic aerial review (NETR 2017).
36-6851/CA-SBR-6851H	G. Romani, G. Head, N. Kaptain, and T. Webb of Greenwood and Associates, 1990	Historic: This site consists of six (6) stone and mortar foundations with associated refuse deposits. The refuse deposits are primarily comprised of cans. In 1990, the site was described as situated in an area that was currently being developed.	—	—	●	No. However, this site is mapped immediately to the north of the northern project area boundary (Greenspot Road).
36-6852/CA-SBR-6852H	G. Romani, G. Head, N. Kaptain, and T. Webb of Greenwood and Associates, 1990	Historic: Water control/conveyance structures, including a cistern, wellhead, and pipelines.	—	—	●	No. However, this site is mapped immediately to the north of the northern project area boundary (Greenspot Road).
36-6853/CA-SBR-6853H	Originally recorded by G. Romani, G. Head, N. Kaptain, and T. Webb of Greenwood and Associates, 1990 Updated by J. Eighmey, I. Strudwick, R. Phillips, P. McHenry, J. Boughton, and R. Collett of Gallegos & Associates, 1993	Historic: Refuse scatter consisting of glass, cans, and domestic refuse. This resource was described as likely surficial in nature. This site could not be relocated during surveys completed in 1993 and 2006 (Gallegos & Associates 1993; ECORP 2006a).	—	—	—	Yes. This resource is recorded in the north-central portion of the project area. However, it could not be relocated during previous studies (Gallegos & Associates 1993; ECORP 2006a) or during the current study.
36-6854/CA-SBR-6854H	G. Romani, G. Head, N. Kaptain, and T. Webb of Greenwood and Associates, 1990	Historic: This resource consists of a concrete trough, domestic refuse, a fence line, and a portion of the Cram-Van Leuven Ditch (36-6848/CA-SBR-6848H).	●	—	—	No
36-7051/CA-SBR-7051H	Originally recorded by J. J. Schmidt, G. Romani, J. Schmidt, and B. Texier of Greenwood and Associates, 1990 Updated by M. Pritchard-Parker, A. Delu, and H.	Historic: An extensive irrigation complex within an active orange grove. Structures include flumes, weirs, canals, standpipes, a reservoir, ditches, and retaining walls.	●	—	—	No

Resource Number	Recorder Name and Date	Resource Description	Within ~One to 0.50 Mile Radius	Within ~0.50 to 0.25 Mile Radius	Within ~0.25 Mile Radius	Within Project Area?
	Peterson of LSA, 1994 and C. Harper and P. Shattuck of LSA 2003					
36-7165/CA-SBR-7165H	Originally recorded by R. Hatheway of Hatheway and Associates, 1987 Updated by J. McKenna of McKenna, et al., 1992	Historic: The Plunge Creek Bridge. This bridge was constructed in about 1933 and is an example of the Pratt Pony Truss style that was patented in 1844.	●	—	—	No
36-7434/CA-SBR-7434H	Originally recorded by R. Phillips and P. McHenry of Gallegos & Associates, 1993 Updated by ECORP, 2006	Historic: Refuse dump consisting of glass, cans, ceramics, and domestic refuse. This site was detected on the northern edge of the Cram-Van Leuven Ditch (36-6848/CA-SBR-6848H) and was described as eroding into the ditch. When originally recoded, it measured 4 meters (north-south) by 5 meters (east-west) (13 feet by 16 feet). In 1993, probing via trowel indicated that the site extended to a depth of approximately 10 centimeters. Diagnostic artifacts were collected and identified a date of 1932 or later for the deposit. Based on these results, the interpretive value of information available from this site was identified as low and it was recommended not important under CEQA. As such, no additional work was recommended for this resource prior to any impacts (Gallegos & Associates 1993). The site was relocated in 2006. At this time, various artifacts were detected, but the site was described as comparatively more eroded than when originally recorded. Testing was recommended to evaluate the site under CEQA (ECORP 2006a).	—	—	—	Yes. This resource is located in the central portion of the project area and remnants of the site were relocated during the current study.
36-7995/CA-SBR-7995H	D. McLean and M. Pritchard-Parker of LSA, 1994	Historic: The Cram School Irrigation Channels. This resource consists of the remains of three (3) irrigation channels constructed of split granite cobbles and mortar. They were likely installed in the late 19th century or early 20th century.	●	—	—	No
36-7996/CA-SBR-7996H	B. Sturm and D. McLean of LSA, 1994	Historic: The Cram Schools. This site consists of two (2) features that may be associated with the Cram Schools. Feature 1 may be associated with the 1882 school and consists of a brick and mortar flagpole base and associated concrete swale for water run-off. Feature 2 may be associated the 1902 school and appears to be a possible concrete footing.	●	—	—	No

Resource Number	Recorder Name and Date	Resource Description	Within ~One to 0.50 Mile Radius	Within ~0.50 to 0.25 Mile Radius	Within ~0.25 Mile Radius	Within Project Area?
36-10181/CA-SBR-10181H	D. McDougall and D. Bircheff of Applied Earthworks, Inc., 1999	Historic: A small surface scatter of domestic refuse dating between about 1917 and the 1950s (or later).	—	●	—	No
36-10182/CA-SBR-10182H	D. McDougall and D. Bircheff of Applied Earthworks, Inc., 1999	Historic: A small surface scatter of domestic refuse dating between pre-1917 and the 1950s.	—	—	●	No
36-10183/CA-SBR-10183H	D. McDougall and D. Bircheff of Applied Earthworks, Inc., 1999	Historic: This site consists of four (4) loci comprised of surficial domestic refuse scatters. The observed refuse indicates that the site location has been used as a refuse dump throughout the 20th century.	—	—	●	No. However, this site is located immediately to the southwest of the project area.
36-11475/CA-SBR-11475H	D. McLean of LSA, 1998	Historic: A Craftsman style residence constructed in 1915, a cobble and mortar wall, an irrigation flume, and an orange orchard in operation since approximately 1895 or 1896.	●	—	—	No
36-11476/CA-SBR-11476H	D. McLean of LSA, 1998	Historic: Eight (8) mortar and cobble walls, a concrete gutter, and a cobble irrigation ditch.	●	—	—	No
36-12264/CA-SBR-12205H	C. Cotterman and W. Sharp of ECORP, 2006	Historic: Refuse scatter dominated by domestic food containers and consisting of glass, cans, and ceramics. One (1) small concentration of artifacts was noted and the resource was described as surficial in nature. This site measured 50 feet (north-south) by 75 feet (east-west) and diagnostic artifacts suggested a date range of 1880 and 1925. This site was recommended for testing to evaluate the site under CEQA (ECORP 2006a).	—	—	—	Yes. This resource is located in the central portion of the project area and remnants of the site were relocated during the current study.
36-12265	C. Cotterman of ECORP, 2006	Historic: The remains of an early 20th century citrus/poultry ranching complex. This complex pre-dates 1948 and includes four (4) houses, associated garages, a well and pump stand, two (2) cisterns, a reservoir, a chicken coop, a swimming pool, concrete and iron water pipes, a concrete foundation, and boulders. This resource was recommended for additional research to evaluate the site under CEQA (ECORP 2006a).	—	—	—	Yes. This resource is located in the southwest corner of the project area and remnants of the site were relocated during the current study.
36-24384/CA-SBR-15513H	D. Ballester and R. Porter of CRM Tech, 2012	Historic: An earthen canal measuring approximately 1,867 feet in length. This resource was recommended not eligible for inclusion in the NRHP and the CRHR.	●	—	—	No
36-31127	A. Belcourt and S. Kitchel of ICF International, 2016	Historic: Isolated find consisting of one (1) crushed, single hinged tobacco tin.	—	—	●	No

Resource Number	Recorder Name and Date	Resource Description	Within ~One to 0.50 Mile Radius	Within ~0.50 to 0.25 Mile Radius	Within ~0.25 Mile Radius	Within Project Area?
36-31128/CA-SBR-31128H	A. Belcourt and S. Kitchel of ICF International, 2016	Historic: A water channel comprised of two (2) parallel berms constructed of soil and cobbles. This resource dates to 1938 or earlier. The resource was recommended not eligible under Criteria 1 through 4 (NRHP) or Criteria A through D (CRHR).	—	—	●	No
36-31129/CA-SBR-31129H	A. Belcourt and S. Kitchel of ICF International, 2016	Historic: A water channel comprised of two (2) parallel berms constructed of soil and cobbles. This resource dates to 1938 or earlier. The resource was recommended not eligible under Criteria 1 through 4 (NRHP) or Criteria A through D (CRHR).	—	—	●	No
36-060,195	G. Romani of Greenwood and Associates, 1987	Historic: Isolated find consisting of a fragment of amethyst bottle glass.	—	●	—	No

The SCCIC records search also indicated that 16 area-specific technical reports are on file for the project area and the one mile search radius. Two (2) of these reports address the project area (SB-2828/Gallegos & Associates 1993; SB-5671/ECORP 2006a), indicating that the project area has been previously surveyed for the presence or absence of observable cultural resources. One (1) of these reports (SB-5671/ECORP 2006a) addressed the entire project area and the other report (SB-2828/Gallegos & Associates 1993) addressed the east half of the project area. Collectively, the 16 previous reports address approximately 30 percent of the land located within the search radius. The survey coverage varies throughout the search radius with the lands located within 0.25 mile exhibiting 35 percent coverage, between 0.25 and 0.50 mile 20 percent coverage, and 0.50 and one mile of the project area exhibiting about 30 percent coverage. The details of these reports are summarized below in Table 2.

Table 2. Previous Cultural Resources Studies Within One Mile of the Project Area

Report #	Date	Rsrcs	Report	Author
SB-0667	1978	Yes	Cultural Resources Assessment for Tentative Tract 10501, East Highland Area	San Bernardino County Museum Association (SBCM)
SB-1124	1981	No	Cultural Resources Assessment of the East Highlands Ranch, San Bernardino County, California	SBCM
SB-1125	1986	No	Cultural Resources Assessment of Tentative Tracts 13467, 13468, and 13469, East Highlands Ranch Phase 3, San Bernardino County, California	Lerch & Associates

Report #	Date	Rsrcs	Report	Author
SB-1566	1986	Yes	Santa Ana River Upstream Alternatives, Cultural Resources Survey	ECOS Management Criteria, Inc.
SB-1783	1988	Yes	Seven Oaks Dam Project: Water Systems	Area Location Systems
SB-1824	1988	Yes	Old Webster Quarry EIR: Historic Resources	Hatheway & McKenna
SB-1878	1989	No	Cultural Resource Survey for a Proposed Storm Drain Channel, Near East Highlands, San Bernardino County, California	Greenwood and Associates
SB-2679	1992	No	Archaeological Investigations at the Abbey Way Well Site Property for the East Valley Water District, San Bernardino County, California	McKenna, et al.
SB-2828	1993	Yes	Cultural Resource Survey Report for the Concordia Homes Project, City of Highlands, California	Gallegos & Associates
SB-2936	1993	No	Picnic/Staging Area	M. Mlazovsky
SB-3036	1995	Yes	Archaeological and Historical Investigations of the Cram School Site and Tentative Tracts 13551 and 15554, East Highlands, San Bernardino County, California	LSA
SB-3037	1995	Yes	Cultural Resources Assessment for 278.4 Acres Within East Highlands Ranch, San Bernardino County, California	LSA
SB-4831	2005	No	Cultural Resource Assessment: Upper Santa Ana River Wash Land Management and Habitat Conservation Plan, San Bernardino County, California	D. Brunzell
SB-5671	2006	Yes	Cultural Resources Survey Report for the Heather Glen Project (TT17604), City of Highland, San Bernardino County, California	ECORP
SB-6638	2010	No	Cultural Resource Survey Report: Greenspot Road Site, San Bernardino County, California	Dynamic Environmental Associates, Inc.
SB-7146	2011	No	Identification and Evaluation of Historic Properties: East Valley Water District Plant 143 Project, City of Highland, San Bernardino County, California	D. Encarnacion

4.2) Historic Records Review

Historic documents and maps available from the BLM GLO website were reviewed to provide information about historic era land use and development within the project area (BLM 2017). In addition, archival topographic maps and aerial photographs containing the project area were reviewed. This review included topographic maps dating between 1895 and 1999 and aerial photographs dating between 1938 and 2012 (NETR 2017).

A review of land patents for Section 2 of Township 1 South, Range 3 West indicated that the southeast quarter (SE ¼) of the southwest quarter (SW ¼) and the SW ¼ of the SE ¼ were transferred to Titus H. Woodruff on October 5, 1907. This transfer occurred under the authority of the Original Homestead Entry of May 20, 1862 (12 Stat. 392). Additional land transfers are listed for Section 2; however, none of these transfers include the project area. These transfers address lands that were allotted to the Cram and Van Leuven families. Specifically, lands within the northeast quarter (NE ¼) and the southeast quarter (SE ¼) were transferred to Henry, John, and/or Lorenzo Cram between 1879 and 1882. Lands within the northwest quarter (NW ¼) and the S ½ were transferred to Benjamin, Frederick, and/or Sydney Van Leuven between 1875 and 1891.

Topographic maps dating between 1895 and 1951 do not depict structures within or near the project area. However, the Old North Fork Ditch is shown trending within the project area as early as 1899. In 1955, the ditch is no longer depicted and a water feature trends east-west across the northern edge of the project area. In addition, three (3) structures are located in the southwestern portion of the project area at the mapped location of 36-12265. This development pattern is consistent between 1955 and 1964. In 1969, a total of four (4) structures are depicted in the mapped location of 36-12265 and a blue-line water feature consistent with the mapped location of 36-6848/CA-SBR-6848H is shown. By 1980, five (5) structures are shown in the location of 36-12265. This development pattern is consistent with the modern topographic map dating to 1999 and is generally reflected in the available aerial photographs.

The earliest aerial photograph dates to 1938 and shows several structures and active fields or groves in the southwestern portion of the project area. These structures correspond to the mapped location of 36-12265. Between 1959 and 1980, the number of structures at the mapped location of 36-12265 appears to increase, as does the size of the associated ornamental vegetation. The development in this area remains relatively consistent between about 1995 and 2005, but by 2009 the structures appear to have been removed. Also, beginning in 1938 and extending to the most recent aerial photograph (2016; Figure 3), a water feature is observable trending east-west across the central portion of the project area. This water feature corresponds to the mapped location of previously recorded resource 36-6848/CA-SBR-6848H.

4.3) Native American Coordination

An SLS was requested from the NAHC on June 28, 2017 and a response was received on June 29, 2017 (Appendix D). The NAHC SLS failed to indicate the presence of Native American

cultural resources in the immediate project area. However, the NAHC noted that the absence of specific site information does not indicate the absence of cultural resources in any project area and that other resources should be consulted to obtain information regarding known and previously recorded sites.

A total of 19 scoping letters were sent to the contacts named by the NAHC on July 6, 2017. As a result of the information scoping process, one (1) response has been received from the SMBMI. The SMBMI stated that the project is located within Serrano ancestral territory and they requested additional project-related information and the completion of area-specific research. Specifically, they recommended the completion of a records search at the SCCIC and an archaeological pedestrian survey. All correspondence has been incorporated into Appendix E and a summary of the detail is provided below in Table 3.

Table 3. Summary of Native American Coordination

Contact Name and Title	Contact Affiliation	Method of Contact and Date	Response	Action(s) Required?
Jeff Grubbe, Chairperson	Agua Caliente Band of Cahuilla Indians	Scoping letter sent via U.S. Mail on July 6, 2017	No response received.	N/A
Patricia Garcia-Plotkin, Director	Agua Caliente Band of Cahuilla Indians	Scoping letter sent via Email on July 6, 2017	No response received.	N/A
Amanda Vance, Chairperson	Augustine Band of Cahuilla Mission Indians	Scoping letter sent via U.S. Mail on July 6, 2017	No response received.	N/A
Doug Welmas, Chairperson	Cabazon Band of Mission Indians	Scoping letter sent via U.S. Mail on July 6, 2017	No response received.	N/A
Daniel Salgado, Chairperson	Cahuilla Band of Indians	Scoping letter sent via Email on July 6, 2017	No response received.	N/A
John Perada, Environmental Director	Los Coyotes Band of Mission Indians	Scoping letter sent via U.S. Mail on July 6, 2017	No response received.	N/A
Shane Chapparosa, Chairperson	Los Coyotes Band of Mission Indians	Scoping letter sent via Email on July 6, 2017	No response received.	N/A
Robert Martin, Chairperson	Morongo Band of Mission Indians	Scoping letter sent via U.S. Mail on July 6, 2017	No response received.	N/A
Denisa Torres, Cultural Resources Manager	Morongo Band of Mission Indians	Scoping letter sent via Email on July 6, 2017	No response received.	N/A

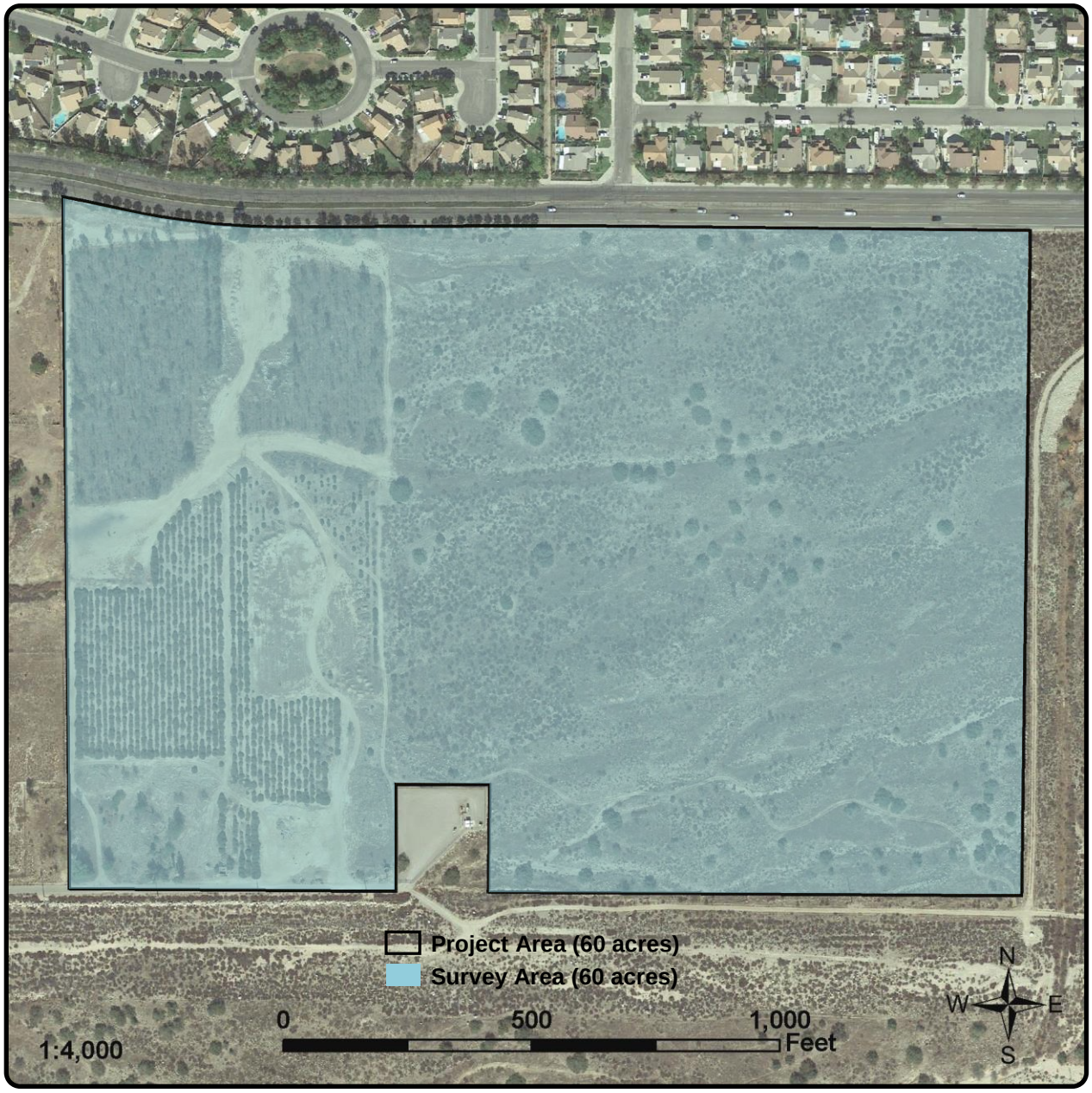
Contact Name and Title	Contact Affiliation	Method of Contact and Date	Response	Action(s) Required?
Joseph Hamilton, Chairperson	Ramona Band of Cahuilla Mission Indians	Scoping letter sent via Email on July 6, 2017	No response received.	N/A
John Gomez, Environmental Coordinator	Ramona Band of Cahuilla Mission Indians	Scoping letter sent via Email on July 6, 2017	No response received	N/A
John Valenzuela, Chairperson	San Fernando Band of Mission Indians	Scoping letter sent via Email on July 6, 2017	No response received.	N/A
Lee Clauss, Director of Cultural Resources	SMBMI	Scoping letter sent via Email on July 6, 2017	No response received.	N/A
Jessica Mauck, Cultural Resources Analyst	SMBMI	Response received via Email on August 3, 2017	In an email dated August 3, 2017, Ms. Mauck indicated that the project area was located within Serrano ancestral territory and in an area of interest to the Tribe. This interest was based on the proximity of the project area to Plunge Creek as it extends from the San Bernardino Mountains near the SMBMI reservation. For these reasons, they requested additional project-related information and the completion of a Phase I investigation. Specifically, the SMBMI requested the following: • The name and contact information of the Lead Agency Point of Contact, once determined; • An NAHC SLS; • A records search at the SCCIC using a one mile radius; • Additional research performed via historical documents and maps; • A map showing the results of the background research with the search radius; • Photographs of the project area; • Site/design plans with information about the horizontal and vertical extent of the project; and • A Phase I archaeological investigation with 100 percent coverage.	Advise the Lead Agency of the Tribe's requests and recommendations.
Steven Estrada, Chairperson	Santa Rosa Band of Mission Indians	Scoping letter sent via U.S. Mail on July 6, 2017	No response received.	N/A
Goldie Walker, Chairperson	Serrano Nation of Mission Indians	Scoping letter sent via U.S. Mail on July 6, 2017	No response received.	N/A
Joseph Ontiveros, Cultural Resource Department	Soboba Band of Luiseno Indians	Scoping letter sent via Email on July 6, 2017	No response received.	N/A
Rosemary Morillo, Chairperson	Soboba Band of Luiseno Indians	Scoping letter sent via Email on July 6, 2017	No response received.	N/A

Contact Name and Title	Contact Affiliation	Method of Contact and Date	Response	Action(s) Required?
Carrie Garcia, Cultural Resources Manager	Soboba Band of Luiseno Indians	Scoping letter sent via Email on July 6, 2017	No response received.	N/A
Michael Mirelez, Cultural Resource Coordinator	Torres-Martinez Desert Cahuilla Indians	Scoping letter sent via Email on July 6, 2017	No response received.	N/A

4.4) Pedestrian Survey and Site Visits

L&L Archaeologist William R. Gillean, B.S. performed site visits on July 11, 2017 and October 3, 2017 to relocate and document previously recorded resources. Mr. Gillean completed the pedestrian survey on July 18, 2017. During the survey, east-west trending transects were completed at intervals of no more than 15 meters throughout the entire ±60 acre project area. Survey coverage is shown in relation to the project area boundary in Figure 10 and photographs of the project area are included in Appendix C.

The project area is generally rectangular in shape. It is located immediately to the south of Greenspot Road and approximately 340 feet to the west of the intersection of Greenspot Road and Weaver Street. The northern boundary consists of Greenspot Road and it exhibits plastic and wire fencing immediately to the south of the road (Appendix C: Photographs 1 and 2). The western boundary is formed by a dirt road with chain-link and wire fencing (Appendix C: Photographs 3 and 4). It is bounded to the south by Abbey Way (Appendix C: Photographs 5 and 6) and to the east by wire fencing (Appendix C: Photographs 7 and 8). A small area located along the southern project area boundary is not included in Tract 17604 and this area is currently occupied by an East Valley Water District facility.



L&L Environmental, Inc.

BIOLOGICAL AND CULTURAL INVESTIGATIONS AND MONITORING

GSPI-05-646
December 2017

Figure 10
Survey Coverage in the Project Area
(Photo obtained from Google Earth, October 2016)
Heatherglen/Tract 17604 Project
City of Highland
San Bernardino County, California

Ground surface visibility was generally poor, at approximately 10 to 20 percent, due to presence of vegetation (Appendix C: Photographs 1, 7, and 8). Areas covered by dirt roads and comparatively sparse vegetation exhibited excellent visibility (90 to 100 percent). These areas were generally located in the western portion of the project area (Appendix C: Photographs 4, 9, and 10).

During the pedestrian survey and site visits, no new prehistoric or historic resources were detected and four (4) previously recorded historic resources were relocated (36-6848/CA-SBR-6848H, 36-7434/CA-SBR-7434H, 36-12264/CA-SBR-12205H, and 36-12265). One (1) previously recorded historic site could not be relocated (36-6853/CA-SBR-6853H). These resources are described in detail in Section 4.5 below. In addition, numerous modern and recent historic refuse concentrations were noted in the central and southern portions of the project area (Appendix C: Photographs 9 and 10). One (1) representative example included construction debris, such as metal paint cans, rectangular cans, and spools, a pull-tab drink container, and glass from a soft drink bottle (Appendix C: Photograph 11), while another example included fragments of cobble and mortar with a fence post exhibiting modern nails and barbed wire (Appendix C: Photograph 12). The prevalence of refuse within and near the project area reflects the intensive use of the area for refuse disposal activities over time.

4.5) Resources Located in the Project Area

Four (4) previously recorded historic resources were relocated during the pedestrian survey and the site visits (36-6848/CA-SBR-6848H, 36-7434/CA-SBR-7434H, 36-12264/CA-SBR-12205H, and 36-12265). One (1) previously recorded historic site could not be relocated (36-6853/CA-SBR-6853H). These resources are described in detail below and are shown in relation to the project area boundary in Figure 11.

4.5.1) 36-6848/CA-SBR-6848H (Cram-Van Leuven Ditch)

36-6848/CA-SBR-6848H is mapped as trending east-west across the central portion of the project area (Figure 11). This resource was originally recorded in December of 1990 by Greenwood and Associates as a segment located to the west of Church Street (Romani, et al. 1990a). An update was completed in May of 1992 that addresses a possible portion of the ditch located to the east of the project area (McKenna 1992). The segment of the ditch found in the project area was addressed by updates completed in 1993 and 2006 (Eighmey, et al. 1993a;

ECORP 2006b). 36-6848/CA-SBR-6848H consists of the mapped location of the Cram-Van Leuven Ditch, which is an irrigation ditch constructed in 1858 by members of the Cram and the Van Leuven families. This ditch was one (1) of the first irrigation systems emerging from the Santa Ana Canyon and it connected the mouth of the canyon with the Cram and Van Leuven lands located at the base of the East Highlands bench. When originally constructed, the ditch measured several miles in total length.

In the project area, the ditch was first addressed by Gallegos & Associates in March of 1993 (Eighmey, et al. 1993a; Gallegos & Associates 1993). At this time, the ditch was described as measuring approximately 30 feet in width (maximum) with a depth of about 10 feet (maximum). It also contained a small terrace feature on either side of the ditch that was situated about four (4) feet from the existing ground surface. Furthermore, it was unlined and it lacked dams, diversions, or any other associated features. The ditch was relocated in March of 2006 by ECORP (ECORP 2006a; ECORP 2006b). In 2006, the description provided in 1993 was determined to be accurate, but the ditch was found to be irregular in width and depth. At the eastern end of the segment, the ditch measured about 75 feet in width with a depth of 10 feet, while the western end measured 30 feet or less in width with a depth of about five (5) feet. The eastern end was also described as terminating at a north-south trending modem flood control channel comprised of concrete.

L&L relocated this resource during the pedestrian survey and site visits conducted in 2017. The dimensions and description provided by ECORP in 2006 were found to be generally accurate; however, the terrace feature first noted by Gallegos & Associates in 1993 was not observable. Rather, the water feature appeared to exhibit a “U” or “V” shape. The absence of the terrace feature may be the result of erosion, as the water feature exhibits friable soils. Currently, the water feature is overgrown with vegetation and is filled with cobbles and boulders. No water is observable in the feature and it does not convey flows either to or from the project area. The western end terminates near two (2) dirt roads while the eastern end terminates at about the project area boundary and is interrupted by a modern north-south trending flood control channel (Appendix C: Photographs 13 and 14).

4.5.2) 36-6853/CA-SBR-6853H (Historic Refuse Scatter)

36-6853/CA-SBR-6853H is mapped near the northern project area boundary (Figure 11). This site was originally recorded in December of 1990 by Greenwood and Associates (Romani, et al. 1990b). The site was described as a historic age domestic refuse scatter dominated by cans,

but also containing saw-cut mammal bone; ceramic fragments; and glass fragments, including solarized glass. It also included intermingled recent refuse, but the historic age artifacts dated the site from about World War I (1914-1918) to the 1930s or 1940s. The scatter appeared to be surficial in nature and it measured approximately 69 feet (length) by 59 feet (width).

This site could not be relocated during studies completed in 1993 and 2006 (Gallegos & Associates 1993; ECORP 2006a). In addition, L&L could not relocate this site during the pedestrian survey or the site visits in 2017. The original site record from 1990 and an update prepared in 1993 provide conflicting information when the location map is considered against the provided UTMs and the sketch map (Romani, et al. 1990b; Eighmey, et al. 1993b). L&L attempted to relocate the site at each of the areas indicated; but, no evidence of the site could be detected. The site is mapped immediately to the south of Greenspot Road and this resource was likely destroyed by associated road widening activities that occurred in the 1990s (Gallegos & Associates 1993) (Appendix C: Photograph 15).

4.5.3) 36-7434/CA-SBR-7434H (Historic Refuse Dump)

36-7434/CA-SBR-7434H is mapped on the northern edge of the Cram-Van Leuven Ditch (36-6848/CA-SBR-6848H) in the central portion of the project area (Figure 11). This site was originally recorded in March of 1993 by Gallegos & Associates (Phillips and McHenry 1993; Gallegos & Associates 1993). The site was described as a historic age domestic refuse dump mainly consisting of cans, glass fragments, and ceramic fragments. Several diagnostic artifacts were collected and analyzed and these artifacts dated the site to 1932 or later. The refuse dump was described as eroding into the ditch, exhibiting fair integrity, and it measured approximately 13 feet (north-south) by 16 feet (east-west).

This site was relocated in 2006 and was found to generally reflect the description provided in 1993 (ECORP 2006a; ECORP 2006c). In 2006, the site was described as containing fragments of glass, ceramics, rusted cans, and bailing wire. It was situated on the northern bank of the Cram-Van Leuven Ditch and continued down into the ditch. At this time, the site was determined to be more affected by erosion than when originally recorded in 1993.

L&L relocated this site during the pedestrian survey and site visits in 2017; but, the site was detected at a different location than the area indicated by the UTMs included in the 1993 site record. The 1993 record contains two (2) sets of UTMs that plot the site approximately 100 feet to the south of the Cram-Van Leuven Ditch. These UTMs are inconsistent with the sketch map and location map that show the site on the northern edge of the ditch (Phillips and McHenry

1993). L&L relocated the site to the north of the ditch and recorded updated UTMs. At this time, the site exhibits the same dimensions as described in 1993 and 2006, but only four (4) fragments of glass, a possible tractor motor, and a scatter of milled wood planks with modern nails were detected at the site location. While many of the diagnostic artifacts were collected in 1993, numerous artifacts remained in 2006 and the majority of these artifacts could not be relocated by L&L. 36-7434/CA-SBR-7434H is a sparse scatter that appears to be in poor condition as the majority of the recorded artifacts are no longer present and the soils have been severely impacted by erosion (Appendix C: Photograph 16).

4.5.4) 36-12264/CA-SBR-12205H (Historic Refuse Scatter)

36-12264/CA-SBR-12205H is mapped in the central portion of the project area (Figure 11). This site was originally recorded in March of 2006 by ECORP (Cotterman and Sharp 2006; ECORP 2006a). It was described as a sparse historic age refuse scatter with a small concentration of artifacts located near the western end of the site. The recorded artifacts mainly consisted of domestic refuse with limited agricultural refuse and included cans, glass fragments, ceramic fragments, bailing wire, barbed wire, and metal floodgates associated with irrigation standpipes. Several diagnostic artifacts were analyzed and they dated the site between about 1880 and 1925. The scatter was described as surficial in nature and it measured approximately 50 feet (north-south) by 75 feet (east-west).

L&L relocated this site during the pedestrian survey and site visits in 2017. Currently, the site reflects the same dimensions and general composition as described in 2006 (Cotterman and Sharp 2006; ECORP 2006a). Specifically, the artifact concentration noted at the western end of the site and measuring about three (3) feet in diameter was detected. In addition, the base of a sun-altered octagonal drinking glass, a sherd of terracotta, barbed wire, bailing wire, and metallic pipe or tubing were detected. However, none of the remaining artifacts described in the original site record were detected. 36-12264/CA-SBR-12205H appears to be a very sparse surface scatter currently containing approximately 18 artifacts within an area measuring about 3,750 square feet. It appears to be in fair to poor condition as several of the originally recorded artifacts are no longer present and the soils have been impacted by erosion (Appendix C: Photograph 17).

4.5.5) 36-12265 (Historic Citrus/Poultry Ranching Complex)

36-12265 is mapped in the southwestern corner of the project area (Figure 11). This resource was originally recorded in March of 2006 by ECORP and it was described as an early 20th

century citrus and poultry ranching complex (Cotterman 2006; ECORP 2006a). The site occupies an area measuring approximately 400 feet (north-south) by 650 feet (east-west) and is comprised of four (4) houses and numerous associated features as summarized below:

- One (1) house located at 29152 Abbey Way;
- One (1) house located at 29172 Abbey Way;
- Two (2) houses located at 29242 Abbey Way;
- Associated garages;
- A well and pump stand;
- Two (2) cisterns;
- A stone irrigation reservoir;
- A chicken coop;
- A concrete swimming pool;
- Segments of concrete and iron pipe;
- Remnants of a concrete building foundation; and
- Lines of boulders resulting from land clearance.

All of the features recorded in 2006 were present at the site when the property was acquired by the owner in 1948 and based on the architectural styles of the homes, ECORP estimated that the houses dated to the 1930s or earlier.

L&L relocated the site during the pedestrian survey and site visits in 2017; however, the four (4) houses and the majority of the features have been completely removed. At this time, the site retains a total of three (3) previously recorded features, including the round concrete cistern, the stone irrigation reservoir, and a concrete well pad that may correspond to a well recorded in conjunction with a pump stand at 29152 Abbey Way. 36-12265 currently appears to be in very poor condition as all of the recorded houses and the majority of the associated features have been removed and the surrounding soils have been impacted by erosion and demolition activities (Appendix C: Photograph 18).

4.6) Eligibility Recommendations and Project Impacts

4.6.1) 36-6848/CA-SBR-6848H (Cram-Van Leuven Ditch)

36-6848/CA-SBR-6848H was initially recorded as a segment located to the west of the project area in 1990 and an update was completed in May of 1992 that addresses a possible portion of the ditch located to the east of the project area (Romani, et al. 1990a; McKenna 1992). The

segment of the ditch found in the project area was addressed by updates completed in 1993 and 2006 (Eighmey, et al. 1993a; ECORP 2006b).

In 1993, the segment located in the project area was described as considerably damaged by numerous flooding episodes. Nonetheless, it was recommended for avoidance during future development, if feasible. If avoidance was not possible, then recordation was considered sufficient to mitigate impacts and no further work was recommended (Gallegos & Associates 1993). This resource was relocated in the project area in 2006 by ECORP (ECORP 2006a; ECORP 2006b). ECORP noted that the ditch was likely eligible for the CRHR under Criteria 1 and 2, but that it may no longer possess integrity. They recommended that the portions of the ditch located outside of the project area be assessed in order to more accurately address the integrity of the segment (ECORP 2006a).

As of 2010, the Cram-Van Leuven Ditch has been found ineligible for the NRHP; but, it has not been formally evaluated for the CRHR or for any local registers. It is listed in the HPDF with a status code of 6Y, indicating that it has been determined ineligible for the NRHP by consensus through the Section 106 process. In addition, this resource has not been evaluated for the CRHR or for local listing.

Currently, a segment of this ditch is mapped within the project area and L&L detected a water feature at the resource location in 2017. However, the water feature located in the project area could not be verified as a segment of the Cram-Van Leuven Ditch during its period of significance (1858-1881) (see below [Theme and Period of Significance] and Section 2.5).

Theme and Period of Significance

The portion of 33-6848/CA-SBR-6848H located in the project area has been mapped as a segment of the larger Cram-Van Leuven Ditch measuring approximately 1,900 feet in length. The entirety of the ditch measured several miles in length when originally constructed in 1858. The ditch connected the mouth of the Santa Ana Canyon with the Cram and Van Leuven family lands located at the base of the East Highlands bench and it was one (1) of the first irrigation systems emerging from the canyon (Gallegos & Associates 1993; ECORP 2006). The ditch allowed for the water supply needed to support agriculture and domestic life in the burgeoning Community of Cramville, which was later renamed East Highlands and incorporated as part of the City of Highland (ECORP 2006a; Highland 2006).

This segment of the Cram-Van Leuven Ditch could not be verified as segment of the Cram-Van Leuven Ditch constructed in 1858; rather, it may be a mapping error or a segment of a later iteration of the Cram-Van Leuven/Old North Fork Ditch. If this segment is part of a later iteration of the ditch, then it shares the potential significance and historic context of the entire ditch alignment as a contributor to the development of agricultural and domestic life in Highland. The theme of significance is Community Water System Development (JRP and Caltrans 2000). The period of significance is 1858 to 1881, which represents the time between the initial date of construction for the ditch and the date when the central portion of the ditch becomes unnecessary and is effectively replaced by the high-line North Fork Canal (Beattie 1951; Scott 1977; Atchley 2017; Quales n.d.)

Integrity

The site was evaluated against the seven (7) aspects of integrity as outlined in National Register Bulletin 15, including location, setting, design, workmanship, materials, feeling, and association (NPS 1991).

Location: The ditch segment located in the project area was first identified as a portion of the Cram-Van Leuven Ditch by Gallegos & Associates in 1993 (Gallegos & Associates 1993). This identification was based upon the mapping of the Old North Fork Ditch in the project area on the USGS 1899 Redlands, CA map (Figure 7). However, determining the actual location of the original Cram-Van Leuven Ditch as constructed in 1858; its permutations when upgraded; its later iterations when combined with the North Fork Ditch in 1865; and where the ditch was located after it fell out of necessary use post-1881 is a complicated task. This is due to a lack of maps dating to the period of initial construction, an extensive flooding event in 1862 that changed the flow of the Santa Ana River and affected the ditch, and an additional heavy flooding event in 1867. In addition, there is a time delay between the last necessary date of the central portion of the ditch (after 1881) and the earliest available maps showing the ditch (late 1880s and early 1890s).

In an effort to identify the location of the Cram-Van Leuven Ditch in Section 2 of Township 1 South, Range 3 West, L&L contacted several local libraries and local historians to obtain maps and information. While there is no map associated with the ditch on-file at the San Bernardino County Historical Archives (SB County 2017), L&L did obtain numerous maps of irrigation features in the Highland area from other resources (see Section 2.5). Based on the review of the earliest available maps focused on irrigation features (1888 [Figure 5] and 1891 [Figure 6]), the Old North Fork Ditch/Cram-Van Leuven Ditch was located in the N ½ of the S ½ of Section 2

of Township 1 South, Range 3 West in the vicinity of the project area. This places the ditch to the north of modern Greenspot Road and outside the current project area. Later USGS maps dating to 1899 and into the early 20th century begin to depict the Old North Fork Ditch in the project area (Figure 7). This may be a mapping error where a drainage feature was identified as part of the ditch or a more southerly route for this portion of the ditch that came into use sometime after 1891. Thus, the segment of the ditch mapped in the project area could not be verified as a segment of the Cram-Van Leuven Ditch as it existed from its date of construction until the date it fell out of necessary use (1858-1881). As such, the resource segment does not appear to follow the alignment of its period of significance and does not retain integrity of location.

Setting: The surrounding physical environment of this resource segment has been modified over time. When the Cram-Van Leuven Ditch was constructed in 1858, it conveyed water from the Santa Ana River to the Cram and Van Leuven family lands. In addition, the ditch brought water to one (1) of the earlier settlements in the area that became known as Cramville and later East Highlands (ECORP 2006a; Highland 2006). The lands surrounding the burgeoning community were generally undeveloped at this time, including the lands surrounding the ditch segment in the project area. While the project area itself has remained undeveloped, the lands located immediately to the north of Greenspot Road are currently developed with high-density residential housing that extends to the west, north, and east and into the surrounding foothills. Thus, the setting of this segment has been significantly altered.

Design, Materials, and Workmanship: This resource segment does not appear to follow the alignment of its period of significance and may reflect a later and more southerly route for the ditch that came into use sometime after 1891. As such, it does not retain integrity of its original design, materials, or workmanship.

Feeling and Association: Due to a lack of integrity in terms of location, setting, design, materials, and workmanship, this resource segment also lacks feeling and association. As discussed above, this segment possibly reflects a different route for the ditch that may have come into use after the end of its period of significance (post-1881). As such, it fails to convey its historic character and its association to events affiliated with its original construction in 1858.

Although the segment of 36-6848/CA-SBR-6848H may reflect a route for the Cram-Van Leuven Ditch/Old North Fork Ditch, this alignment was not present during the period of significance. As such, the evaluated segment does not reflect the period of time for which its significance is

gained (1858-1881) and it fails to retain its integrity under any of the aspects outlined in National Register Bulletin 15 (NPS 1991).

CRHR Eligibility Evaluation

This resource was evaluated at the local level for its association with Community Water System Development in the Cramville/East Highland area of modern Highland between the years of 1858 and 1881. Following is a discussion of the application of the CRHR criteria:

Criterion 1: This resource segment was assessed under CRHR Criterion 1 for its potential significance as part of historic events that have made a significant contribution to the broad patterns of California's history and cultural heritage (Event). Water conveyance systems are often found eligible under this type of criterion, as they are indispensable to the communities they serve and they provide the infrastructure needed for agricultural and community development (JRP and Caltrans 2000). Water supply is particularly important in the state of California and the Highland area as the arid lands require a reliable water source to irrigate crops. The Cram Van-Leuven Ditch was constructed in 1858 as the first major water diversion project in the area. It was implemented to bring water from the Santa Ana Canyon to the East Highlands bench and it provided a reliable source of water for the burgeoning community. The ditch represents the advent of the agricultural history and success of the East Highlands area, which has a rich tradition of agricultural pursuits extending from the late 1850s into the modern era. Therefore, this resource segment appears to qualify for the CRHR under Criterion 1.

Criterion 2: This resource segment was considered under Criterion 2 for its association with the lives of persons important in our past (Person). While the ditch is associated with members of the Cram and Van Leuven families and both families played a significant role in the settlement of East Highland, the ditch must be associated with their productive life and must be the property that is most closely associated with each person. Water conveyance systems are rarely found eligible under this type of criterion, as there are typically other more suitable criteria (see Criterion 1 above) and they are typically not the most closely associated properties (JRP and Caltrans 2000). For example, a property that may be better associated with the Cram family could be the site of the original Cram homestead located in nearby Section 3. Though the home is no longer extant, the homestead location has been recorded as 36-4220/CA-SBR-4220H and is listed as CPHI-31 (Teal 1980). Therefore, while this resource segment is associated with the lives of persons important to the past of Highland, it is arguably better classified eligible as a contributor to the broad patterns of local history (Criterion 1/Event) and does not appear to qualify for the CRHR under Criterion 2.

Criterion 3: This resource segment was evaluated for Criterion 3 for embodying the distinctive characteristics of a type, period, region, or method of construction; as representing the work of an important creative individual; or possessing high artistic values (Construction/Architecture). Under this type of criterion, water conveyance systems have been found eligible for their engineering or design values. In this case, the resource consists of a segment of a hand-hewn earthen ditch and it does not represent a design innovation or an example of an evolutionary trend in engineering. As such, this resource segment does not appear to qualify for the CRHR under Criterion 3.

Criterion 4: This segment was also considered for Criterion 4 for the potential to yield or likelihood to yield information important to prehistory or history (Information Potential). This resource does not have the potential to provide information about history that is not available through historic research. Therefore, this resource segment does not appear to qualify for the CRHR under Criterion 4.

To be considered eligible for inclusion in the CRHR, a resource must possess integrity and demonstrate eligibility under at least one of the CRHR criteria. This resource segment represents the agricultural history and success of the East Highlands area and is directly associated with the success of the early East Highlands community. As such, it appears to meet the significance criteria of the CRHR under Criterion 1 (Event). However, the water feature segment in the project area does not appear to reflect the location of the ditch during its period of significance (1858-1881). Instead, it may represent a mapping error or a later and more southerly extension of the ditch (see Section 2.5). In addition, the existing water feature is in very poor condition, as it has been adversely affected by erosion over time and is currently overgrown with vegetation and is filled with cobbles and boulders. As such, this ditch segment possesses low integrity in general and low integrity for its period of significance (1858-1881). Thus, the segment of 36-6848/CA-SBR-6848H (Cram-Van Leuven Ditch) mapped within the project area is recommended not eligible for inclusion in the CRHR.

City of Highland Cultural Resource Eligibility Evaluation

This resource was also evaluated for eligibility as a cultural resource pursuant to Section 16.32.060 of the City of Highland Municipal Code. For the same reasons outlined above in the CRHR eligibility assessment under Criterion 1 (Event), this resource segment appears eligible as a City of Highland cultural resource under Criterion A. However, in order to be considered eligible as a cultural resource by the City, a resource must generally meet the criteria for listing on the NRHP and/or qualify under additional criteria identified by the City (A-J).

In order to be listed on the NRHP, a resource must meet at least one (1) of the significance criteria (A-D) and the resource must also demonstrate a sufficient degree of integrity so that it is capable of conveying such significance. In the case of the water feature located in the project area, this feature does not appear to reflect the location of the Cram-Van Leuven Ditch during its period of significance (1858-1881). Rather, it may represent a mapping error or a later and more southerly extension of the ditch as outlined above in the CRHR eligibility assessment (see also Section 2.5). Thus, the segment of 36-6848/CA-SBR-6848H (Cram-Van Leuven Ditch) mapped within the project area is recommended not eligible as a City of Highland cultural resource.

Project Impacts

The project proposes to construct a portion of Tract 17604 at the recorded location of a segment of 36-6848/CA-SBR-6848H (Figure 12). Therefore, this resource segment could be directly impacted by the proposed project. The research efforts completed during this study and recordation onto a DPR 523 Update Form exhausts this resource segment's research value and no further work is recommended prior to project implementation.

4.6.2) 36-6853/CA-SBR-6853H (Historic Refuse Scatter)

36-6853/CA-SBR-6853H could not be relocated in 1993, 2006, or during the current study (Gallegos & Associates 1993; ECORP 2006a). The site is mapped immediately to the south of Greenspot Road and this resource was likely destroyed by associated road widening activities (Gallegos & Associates 1993).

The project proposes to construct a portion of Tract 17604 at the recorded location of 36-6853/CA-SBR-6853H (Figure 12). As this resource cannot be relocated and is considered destroyed, no known artifacts associated with 36-6853/CA-SBR-6853H will be impacted by the project.

4.6.3) 36-7434/CA-SBR-7434H (Historic Refuse Dump)

36-7434/CA-SBR-7434H was initially recorded during the completion of a pedestrian survey performed on 114 acres (Phillips and McHenry 1993; Gallegos & Associates 1993). This survey was completed to support the construction of a storm drain for Tract 13936, which was also identified as the Concordia Homes Project. At this time, probing via trowel indicated that the site extended to a depth of approximately 10 centimeters. Diagnostic artifacts were collected and identified a date of 1932 or later for the deposit. Based on these results, the interpretive value of the information available from this site was identified as low and it was recommended not important under CEQA. As such, no additional work was recommended for this resource prior to any impacts (Gallegos & Associates 1993). The site was relocated by ECORP in 2006. At this time, various artifacts were detected, but the site was described as comparatively more eroded than when originally recorded. ECORP recommended that the site be tested and evaluated for CRHR eligibility if it could not be avoided and preserved (ECORP 2006a).

To be considered eligible for inclusion in the CRHR, a resource must possess integrity and demonstrate eligibility under at least one (1) of the CRHR criteria. In 1993 and 2006, the site was described as impacted by erosion (Phillips and McHenry 1993; ECORP 2006c). Currently, the site consists of a very sparse surface scatter containing four (4) fragments of glass, a possible tractor motor, and a scatter of milled wood planks with modern nails. It appears to be in very poor condition as many of the originally recorded artifacts are no longer present and the soils have been severely impacted by erosion. Thus, this site does not appear to retain sufficient integrity to be considered eligible for inclusion in the CRHR and no evidence was detected to indicate that this resource has the potential to yield additional information important to history (Criterion 4). Therefore, L&L recommends this site as not eligible for inclusion in the CRHR. Furthermore, L&L recommends that this site does not qualify as a historical resource pursuant to CEQA or as a cultural resource under Section 16.32.060 of the City of Highland Municipal Code.

The project proposes to construct a portion of Tract 17604 at the location of 36-7434/CA-SBR-7434H (Figure 12). Therefore, this resource could be directly impacted by the proposed project. Recordation onto a DPR 523 Update Form exhausts the site's research value and no further work is recommended for this resource prior to project implementation.

4.6.4) 36-12264/CA-SBR-12205H (Historic Refuse Scatter)

36-12264/CA-SBR-12205H was initially recorded during the completion of a pedestrian survey performed on 58.71 acres (Cotterman and Sharp 2006; ECORP 2006a). This survey was completed to support the HeatherGlen/Tract 17604 Project. At this time, the site was described as in fair condition and impacted by erosion. ECORP recommended that the site be tested and evaluated for CRHR eligibility if it could not be avoided and preserved.

To be considered eligible for inclusion in the CRHR, a resource must possess integrity and demonstrate eligibility under at least one (1) of the CRHR criteria. In 2006, the site was described as a sparse refuse scatter impacted by erosion (Cotterman and Sharp 2006; ECORP 2006a). Currently, the site consists of a very sparse surface scatter containing approximately 18 artifacts within an area measuring about 3,750 square feet. It appears to be in fair to poor condition as several of the originally recorded artifacts are no longer present and the soils have been impacted by erosion. Thus, this site does not appear to retain sufficient integrity to be considered eligible for inclusion in the CRHR and no evidence was detected to indicate that this resource has the potential to yield additional information important to history (Criterion 4). Therefore, L&L recommends this site as not eligible for inclusion in the CRHR. Furthermore, L&L recommends that this site does not qualify as a historical resource pursuant to CEQA or as a cultural resource under Section 16.32.060 of the City of Highland Municipal Code.

The project proposes to construct a portion of Tract 17604 at the location of 36-12264/CA-SBR-12205H (Figure 12). Therefore, this resource could be directly impacted by the proposed project. Recordation onto a DPR 523 Update Form exhausts the site's research value and no further work is recommended for this resource prior to project implementation.

4.6.5) 36-12265 (Historic Citrus/Poultry Ranching Complex)

36-12265 was initially recorded during the completion of a pedestrian survey performed on 58.71 acres (Cotterman 2006; ECORP 2006a). This survey was completed to support the HeatherGlen/Tract 17604 Project. At this time, ECORP recommended that the site be further researched and evaluated for CRHR eligibility if it could not be avoided and preserved.

To be considered eligible for inclusion in the CRHR, a resource must possess integrity and demonstrate eligibility under at least one (1) of the CRHR criteria. In 2006, the site exhibited a total of four (4) houses and a variety of associated outbuildings and features (Cotterman 2006; ECORP 2006a). Currently, all of the recorded houses and the majority of the features have

been completely removed. The removal of these buildings and features have rendered the site, including the surrounding soils, in very poor condition. Thus, this site does not appear to retain sufficient integrity to be considered eligible for inclusion in the CRHR and no evidence was detected to indicate that this resource has the potential to yield additional information important to history (Criterion 4). Therefore, L&L recommends this site as not eligible for inclusion in the CRHR. Furthermore, L&L recommends that this site does not qualify as a historical resource pursuant to CEQA or as a cultural resource under Section 16.32.060 of the City of Highland Municipal Code.

The project proposes to construct a portion of Tract 17604 at the location of 36-12265 (Figure 12). Therefore, this resource could be directly impacted by the proposed project. Recordation onto a DPR 523 Update Form exhausts the site's research value and no further work is recommended for this resource prior to project implementation.

5.0) CONCLUSIONS AND RECOMMENDATIONS

In accordance with CEQA, L&L has assessed the impacts of the proposed development on the project area. A records search at the SCCIC indicated that five (5) resources have been mapped within or partially within the project area: 36-6848/CA-SBR-6848H, 36-6853/CA-SBR-6853H, 36-7434/CA-SBR-7434H, 36-12264/CA-SBR-12205H, and 36-12265. In addition, the records search showed that 100 percent of the project area has been previously inventoried via two (2) reports (SB-2828/Gallegos & Associates 1993; SB-5671/ECORP 2006a). Including the two (2) reports that address the project area, a total of 16 studies have been completed within one mile. These studies have addressed approximately 30 percent of the land within the search radius and have recorded 39 cultural resources.

A historic records review included the examination of documents and maps available from the BLM GLO (BLM 2017), archival topographic maps (NETR 2017), and aerial photographs (NETR 2017). Additional research was completed for the Cram-Van Leuven Ditch (36-6848/CA-SBR-6848H) at the A.K. Smiley Library, the Feldhym Library, the San Bernardino County Historical Archives, the HAHS website, and via inquires to local historians. The results of the review indicated that the Old North Fork Ditch/Cram-Van Leuven Ditch has been variably mapped near or within the project area since the late 1880s. In addition, a water feature is observable on aerial photographs at the mapped location of the Cram-Van Leuven Ditch (36-6848/CA-SBR-6848H) since 1938. Finally, various structures have been located within the southwestern portion of the project area over time and in association with a historic age citrus and poultry ranching complex (36-12265). This complex includes several structures and active fields or groves that were present by at least 1938 and the structures were removed by 2009 (NETR 2017).

An SLS was completed by the NAHC and the search failed to indicate the presence of Native American cultural resources in the immediate project area (Appendix D). Information scoping letters were sent to the 19 contacts listed by the NAHC on July 6, 2017. As of the date of this report, one (1) response has been received from the SMBMI. The SMBMI stated that the project is located within Serrano ancestral territory and they requested additional project-related information and the completion of background research. Specifically, they recommended a records search at the SCCIC and an archaeological pedestrian survey. Finally, they requested that the results be provided for their review and consideration. All L&L correspondence completed to date has been incorporated into Appendix E.

Site visits were completed on July 11, 2017 and October 3, 2017 to relocate and document previously recorded resources and the Phase I pedestrian survey was conducted on July 18, 2017. During the pedestrian survey and site visits, no new prehistoric or historic resources were detected and four (4) previously recorded historic resources were relocated (36-6848/CA-SBR-6848H, 36-7434/CA-SBR-7434H, 36-12264/CA-SBR-12205H, and 36-12265). One (1) previously recorded historic site could not be relocated (36-6853/CA-SBR-6853H). DPR 523 Update Forms were prepared for all resources associated with the project area and they were submitted to the SCCIC for their files (Appendix F).

36-6848/CA-SBR-6848H (Cram-Van Leuven Ditch) is an irrigation ditch constructed in 1858 by members of the Cram and the Van Leuven families. Based on its association with the early development of East Highland, 36-6848/CA-SBR-6848H appears to meet the significance criteria of the CRHR under Criterion 1 (Event) and the City of Highland Municipal Code cultural resource criteria under Criterion A (Section 16.32.060). However, the water feature segment in the project area does not appear to reflect the location of the ditch during its period of significance (1858-1881). Instead, it may represent a mapping error or a later and more southerly extension of the ditch that came into use sometime after 1891 (see Section 2.5). In addition, the existing water feature is in very poor condition, as it has been adversely affected by erosion over time and is currently overgrown with vegetation and is filled with cobbles and boulders. As such, this ditch segment possesses low integrity in general and low integrity for its period of significance (1858-1881). Thus, the segment of 36-6848/CA-SBR-6848H (Cram-Van Leuven Ditch) mapped within the project area is recommended not eligible for inclusion in the CRHR, not eligible as a City of Highland cultural resource, and not significant under CEQA. The research efforts completed during this study and recordation onto a DPR 523 Update Form exhausts this resource segment's research value and no further work is recommended prior to project implementation.

36-6853/CA-SBR-6853H (Historic Refuse Scatter) could not be relocated within the project area and is presumed to be destroyed. As this resource is considered destroyed, no known artifacts or features will be impacted by the project and no further work is recommended prior to project implementation.

36-7434/CA-SBR-7434H (Historic Refuse Dump), 36-12264/CA-SBR-12205H (Historic Refuse Scatter), and 36-12265 (Historic Citrus/Poultry Ranching Complex) currently lack the artifact content or features once recorded at each site and all three (3) sites have been subject to soil disturbances associated with erosion. 36-12265 has additionally been adversely impacted by

demolition activities. None of these resources appear to retain sufficient integrity to be considered eligible for inclusion in the CRHR and no evidence was detected to indicate that any of these resources have the potential to yield additional information important to history (Criterion 4). Therefore, L&L recommends 36-7434/CA-SBR-7434H, 36-12264/CA-SBR-12205H, and 36-12265 not eligible for inclusion in the CRHR and not significant pursuant to CEQA. In addition, L&L recommends these sites not eligible as cultural resources under Section 16.32.060 of the City of Highland Municipal Code. Recordation onto DPR 523 Update Forms exhausts each site's research value and no further work is recommended for any of these resources prior to project implementation.

Based on the results of a records search completed at the SCCIC; the pedestrian survey and site visits; and the research, recording, and evaluation efforts, no known historical or archaeological resources pursuant to CEQA are located in the project area. However, archaeological monitoring is recommended during project implementation and this monitoring program is outlined below in Table 4.

It should also be noted that the SMBMI have indicated that the project area lies within Serrano ancestral territory. In addition, they have requested additional project-related information, including the results of archaeological research and survey efforts. Upon their review of the requested information, the SMBMI may provide additional comments or recommendations. The results of this process may further assist in outlining the sensitivity of the project area for Native American resources and the need or lack thereof for Native American monitoring during project implementation.

5.1) Recommendations

Based on the results of the current study, the project area appears to have a high sensitivity for historic age resources and moderate to low sensitivity for prehistoric resources. Therefore, a mitigation-monitoring program is recommended during project implementation and this program is outlined below in Table 4.

Table 4. Recommended Cultural Resources Mitigation Measures

Mitigation Number	Mitigation Text
CR-1	The project area has a high sensitivity for historic age resources and a moderate to low sensitivity for prehistoric resources. This is based on the intensive historic era use of the project area and surrounding lands. To address this sensitivity, L&L recommends that an archaeological mitigation-monitoring program be implemented within the project boundaries during all ground-disturbing activities. Full-time monitoring is recommended throughout the entire project area, with attention focused on any intact soils that may be found beneath soils that have been disturbed by soil erosion and previous land uses in the project area. Full-time monitoring should continue until the project archaeologist determines that the overall sensitivity of the project area has been reduced from high to low as a result of mitigation-monitoring. Should the monitor(s) determine that there are no cultural resources within the impacted areas or should the sensitivity be reduced to low during monitoring, all monitoring should cease.
CR-2	Should any cultural resources be discovered, the monitor(s) are authorized to temporarily halt all grading in the immediate vicinity of the discovery while the resource is recorded onto appropriate DPR 523 Forms and evaluated for significance. If the resource is determined to be significant, the monitor shall make recommendations to the Lead Agency on the measures that shall be implemented to protect the discovered resources, including but not limited to, avoidance, excavation, and further evaluation of the finds in accordance with CEQA. 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 as a result of mitigation, excluding items covered by the provisions of applicable Treatment Plans or Agreements, 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.
CR-3	The results of the mitigation-monitoring program shall be incorporated into a final report and submitted to the Lead Agency for review and approval. Upon approval by the Lead Agency, the final report, including any associated DPR 523 Forms, shall be submitted to the SCCIC.

5.2) Unanticipated Discovery of Human Remains

There is always the possibility that ground-disturbing activities during construction may uncover previously unknown and buried human remains. If human remains are discovered during any phase of construction, including disarticulated or cremated remains, all ground-disturbing activities should cease within 100 feet of the remains and the County Coroner and the Lead Agency (City of Highland) should be immediately notified.

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 Section 5097.98. If the County Coroner determines that the remains are Native American, the NAHC shall be notified within 24 hours and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. The Lead Agency shall also retain a professional archaeologist with Native American burial experience to conduct a field investigation of the find and consult with the Most Likely Descendant, if any, identified by the NAHC. As necessary and appropriate, the archaeologist may provide professional assistance to the Most Likely Descendant, including the excavation and removal of

the human remains. The Lead Agency shall be responsible for approval of recommended mitigation as it deems appropriate, taking account of the provisions of State law, as set forth in CEQA Guidelines Section 15064.5(e) and PRC Section 5097.98. The project contractor shall implement approved mitigation measure(s), to be verified by the Lead Agency, prior to resuming ground-disturbing activities within 100 feet of where the remains were discovered.

5.3) Unanticipated Discovery of Cultural Resources

It is always possible that ground-disturbing activities may uncover presently obscured or buried and previously unknown cultural resources. In the event that buried cultural resources are discovered during construction, such resources could be damaged or destroyed, resulting in impacts to potentially significant cultural resources. If subsurface cultural resources are encountered during construction, if evidence of an archaeological site is observed, or if other suspected historic resources are encountered, it is recommended that all ground-disturbing activity cease within 100 feet of the resource. A professional archaeologist shall be consulted to assess the find and to determine whether the resource requires further study. The qualified archeological personnel shall assist the Lead Agency by generating measures to protect the discovered resources. Potentially significant cultural resources could consist of, but are not limited to: stone, bone, fossils, wood, or shell artifacts or features, including structural remains, historic dumpsites, hearths, and middens. Midden features are characterized by darkened soil and could conceal material remains, including worked stone, fired clay vessels, faunal bone, hearths, storage pits, or burials and special attention should always be paid to uncharacteristic soil color changes. Any previously undiscovered resources found during construction should be recorded on appropriate DPR forms and evaluated for significance under all applicable regulatory 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 as a result 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.

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Wilke, P. J. 1978. Late Prehistoric Human Ecology at Lake Cahuilla, Coachella Valley, California. Contributions of the University of California Archaeological Research, Facility 38. University of California, Berkeley.

7.0) CERTIFICATION

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: December 11, 2017 SIGNED: _____

PRINTED NAME: Leslie Nay Irish, CEO, L&L Environmental, Inc.

DATE: December 11, 2017 SIGNED: _____

PRINTED NAME: Jennifer M. Sanka, M.A., RPA, L&L Archaeologist

APPENDICES

APPENDIX A

Personnel Qualifications

Leslie Nay Irish
Principal Project Manager
Cal Trans (CT) 022889

Leslie Irish is the qualifying principal for WBE certification with CALTRANS, with both a State and Federal designation as a 100% WBE and Small Business Enterprise. Ms. Irish has multi-disciplinary experience in environmental, engineering, land development and construction management and administration.

Ms. Irish has more than 25 years of experience as a project manager on public and private NEPA / CEQA projects overseeing the areas of biology, archaeology, paleontology, regulatory services and state and federal level permit processing.

Ms. Irish is a certified to perform wetland / jurisdictional delineations and holds a responsible party permit for performing archaeological and paleontological investigations on (BLM) public lands. She has attended the desert tortoise handling class, passed the practicum and the test and was awarded a certificate. She remains an active participant in the oversight of mitigation monitoring and reporting programs, the installation and monitoring of revegetation programs and the development of project impact mitigation plans. Her principal office duties include a review of all environmental documents authored by the firm; oversight of regulatory permits, agency consultation and negotiations; impact mitigation review; and long-term permit compliance. Her field duties are more limited but include delineations / compliance monitoring and reporting (coordination), constraints analysis, plan for corrective measures and resolution of "problem projects".

Ms. Irish's responsibilities include direct contact with clients/project proponents, scientists and agencies and involve her in all aspects of the project from a request for proposal to project completion. Ms. Irish has a complex understanding of the industry from various perspectives. As a result, she uses her personal understanding of team member positions and responsibilities in her role as the principal management and quality control lead.

CREDENTIALS AND PERMITS

- ACOE, Wetlands Delineation Certification Update, 2015
- ACOE, Advanced Wetlands Delineation and Management, 2001
- ACOE, Wetlands Delineation and Management, 1999, Certificate No. 1257
- U.S. Government, Permit for Archaeology & Paleontology on Federal Lands, Responsible Party
- MOU, County of Riverside, Archaeology, Biology, Paleontology and Wetlands ID/Delineation
- CALTRANS WBE Certification
- Public Utilities Commission, WBE Certified
- WBENC, WBE Certified

EDUCATION

Certificate in Project Management, Initiating and Planning Projects, UC, Irvine, June 20, 2015
Foundations of Business Strategy, Darden School of Business, UVA, Jan 2014
Design Thinking for Business Innovation (audit), Darden School of Business, UVA, Nov 2013
Update, Storm Water Management BMPs, University of California, Riverside Extension, 2005
Certificate, Wetland Delineation & Management, ACOE, 2000 and Advanced Certificate: 2002
Certificate Program, Field Natural Environment, University of California, Riverside, 1993

Leslie Nay Irish
Continued

Certificate Program, Light Construction, Developmental Management, University of California, Riverside, 1987
Certificate Program, Construction Technologies, Administrative Management, Riverside City College, 1987
License B-General and C-Specialties (Concrete/Masonry) and General Law sections, 1986
Core Teaching and Administrative Management, Primary (K-3) and Early Childhood, Cal State, San Bernardino, Lifelong Learning Program, 1973-2005
Behavioral Sciences and Anthropology, Chaffey and Valley Jr./Community Colleges, 1973 – 1976

PROFESSIONAL HISTORY

L&L Environmental, Inc. - Principal, Project Manager / Principal in Charge: 1993 - present: Site assessments, surveys, jurisdictional delineations, permit processing, agency consultation/negotiation, impact mitigation, project management, coordination, report writing, technical editing, and quality control.
Marketing Consultant - Principal: 1990 - 1993: Engineering / architectural, environmental, and water resource management consultant.
Warmington Homes - Jr. Project Manager: 1989 - 1990: Residential development, Riverside and Los Angeles Counties.
The Buie Corporation - Processor / Coordinator: 1987 - 1990: The Corona Ranch, Master Planned Community.
Psomas & Associates - Processor / Coordinator- 1986 - 1987: Multiple civil engineering and land surveying projects.
Irish Construction Company – Builder Partner: (concurrently with above) 1979 - 1990: General construction, residential building (spec. housing), and concrete and masonry product construction.

PROFESSIONAL AFFILIATIONS

Member, Building Industry Association
Member, Southern California Botanists
Member, Archaeological Institute of America
Member, Society for California Archaeology
Member, California Chamber of Commerce
Member, CalFlora
Member, San Bernardino County Museum Associates
Member, Orange County Natural History Museum Associates
Life Member, Society of Wetland Scientists
1994-97 President, Business Development Association, Inland Empire
1993-94 Executive Vice President, Building Industry Association, Riverside County
2010 Chair of the Old House Interest Group – Redlands Area Historical Society

SYMPOSIA, SEMINARS, AND WORKSHOPS

Assembly Bill 52 Tribal Consultation Process Overview. Pechanga Band of Luiseno Indians Cultural Resources Group. Temecula, CA. October 2015
ACOE Compensatory Mitigation Workshop – Wilshire Blvd Office, July 16, 2015
May 27, 2015, CWA Rule, Update, San Diego CA, October 20-23, 2015

Leslie Nay Irish
Continued

ACOE 2 Day Workshop, Mitigation Rule & Mitigation Checklist, Carlsbad, March 20, 2015
Desert Tortoise Handling Class, update (DT Consortium / Joint Agencies USFWS/CDFG) 2013 Update
Bedrock Food Processing Centers in Riverside County, TLMA, 2009
Nexus Geology-Archaeology, Riverside County, TLMA, 2009
Desert Tortoise Handling Class, (DT Consortium / Joint Agencies USFWS/CDFG), 2008 Certificate Granted
Ecological Islands and Processes (vernal pools, alkali wetlands, etc.), Southern California Botanists, 2004
Low Impact Development, State Water Board Academy, 2004
Inland Empire Transportation Symposium, 2004
Western Riverside County MSHCP Review and Implementation Seminar, 2004
Field Botany and Taxonomy, Riverside City College, 2002
Construction Storm Water Compliance Workshop, BIA, 2002
Identifying Human Bone: Conducted by L&L Environmental, County Coroner and Page Museum, 2002
CEQA/NEPA Issues in Historic Preservation, UCLA, 2000
CEQA and Biological Resources, University of California, Riverside, 2000
CEQA Law Update 2000, UCLA
Land Use Law/Planning Conference, University of California, Riverside
CALNAT “95”, University of California, Riverside
Desert Fauna, University of California, Riverside
Habitat Restoration/Ecology, University of California, Riverside
Geology of Yosemite and Death Valley, University of California, Riverside
San Andreas Fault: San Bernardino to Palmdale, University of California, Riverside
Historic Designations and CEQA Law, UCLA

Jennifer M. Sanka, M.A., RPA
Principal Investigator
Archaeologist

Ms. Sanka has gained more than 17 years of archaeological fieldwork and project-related experience in the U.S., including projects in Alaska, Arizona, California, Indiana, Maryland, Nevada, Ohio, Oregon, and North Carolina. She has conducted all aspects of archaeological fieldwork; has authored and provided third party assessments of numerous cultural resources sections for California Environmental Quality Act (CEQA) environmental impact reports (EIR), National Environmental Policy Act (NEPA) environmental impact statements (EIS), NEPA environmental assessments (EA), constraints analyses and CEQA initial studies; and has certified more than 75 CEQA and Section 106 of the National Historic Preservation Act (NHPA)-compliant documents. She is a Registered Professional Archaeologist ([RPA] #15927, 2006), meets the Secretary of Interior (SOI) Standards for Archaeology and has served as a Principal Investigator on projects reviewed by the Bureau of Land Management (BLM), U.S. Forest Service (USFS), U.S. Army Corps of Engineers (ACOE), Bureau of Indian Affairs (BIA), U.S. Fish and Wildlife Service, U.S. Department of Veterans Affairs, and the Federal Highway Administration (FHWA). Ms. Sanka has spent over a decade working in the archaeological field in southern California. She is a Riverside County Certified Archaeologist (#103, 2007) and is a Certified San Diego County CEQA Consultant for Archaeological Resources (2010). She is also qualified as a Principal Investigator for the BLM Cultural Resources Use Permit (CRUP) for the State of California and the State of Nevada (Historic Resources).

PROFESSIONAL HISTORY

2014-present – Archaeologist, L&L Environmental, Inc. Redlands, CA. Perform field survey and site recordation for projects in southern California. Author, certify, and serve as the Principal Investigator for projects in southern California.

2014 – Cultural Resources Specialist, Burns & McDonnell. Kansas City, MO. Perform field survey and site recordation for projects in Carroll, Howard, Miami, and White Counties, IN.

2009-2014 – Associate Project Manager/Archaeologist, Atkins. San Bernardino, CA. Performed field surveys and subsurface testing programs throughout California and Alaska. Authored and certified numerous survey and testing program reports. Served as an Associate Project Manager, Principal Investigator, and Regional Cultural Lead for projects throughout California and Alaska.

2006-2009 – Project Manager/Archaeologist, Michael Brandman Associates (currently First Carbon Solutions). Irvine, CA. Performed field surveys, subsurface testing programs, and data recovery projects throughout southern California. Authored and certified numerous survey and testing program reports. Served as a Project Manager and Principal Investigator for projects throughout southern California.

2005-2006 – Archaeological Field Technician, ASM Affiliates. Pasadena, CA and Reno, NV. Performed field surveys, subsurface testing programs, and data recovery projects in Barstow (Marine Corps Air Ground Combat Center [MCAGCC]), Fontana, Hemet, Moreno Valley, Palm Springs, Ridgecrest (China Lake Naval Air Warfare Station), and Twentynine Palms (MCAGCC), CA.

2005-2006 – Archaeological Field Technician, EDAW, Inc. (currently AECOM). San Diego and Los Angeles, CA. Performed field surveys and data recovery projects in El Centro (Chocolate Mountains Aerial Gunnery Range), Los Angeles (Los Angeles Public School #9 Cemetery Relocation), and Oceanside (Camp Pendleton Marine Corps Air Station), CA.

Jennifer M. Sanka, M.A., RPA
Continued

2003-2004 – Archaeological Laboratory Technician, TRC-Garrow Associates, Inc. (currently TRC Solutions). Durham, NC. Performed subsurface testing programs and data recovery projects in Pokomoke City, MD (18-WO-183), Greensboro, NC, and Fayetteville, NC (Fort Bragg Army Airborne and Special Forces Installation). Completed artifact curation and collection management for 18-WO-183 and for various Fort Bragg collections.
2001-2003 – Teaching and Research Assistant, Duke University, Department of Religion. Durham, NC. Screened films, led group discussions, graded documents, and performed research on the Reformation Period to support faculty research projects.
2000 and 2002 – Trench Supervisor, North Carolina State University, Department of History. Aqaba, Kingdom of Jordan. Supervised up to five Jordanian archaeological technicians/laborers during trench excavations for the Roman Aqaba Project (RAP). Experience included the excavation of a probe along the Byzantine Era curtain wall and salvage archaeology within a Nabatean–Early Roman transition period domestic complex.
1999 – Student, Miami University, Department of Anthropology. Oxford, OH. Completed salvage excavation at Milford Works I.

PROFESSIONAL AFFILIATIONS

Society for California Archaeology
Register of Professional Archaeologists

PROFESSIONAL DEVELOPMENT

2015 – *Assembly Bill 52 Tribal Consultation Process Overview.* Pechanga Band of Luiseno Indians Cultural Resources Group. Temecula, CA.
2013 – *Advanced Seminar: Reaching Successful Outcomes in Section 106 Review.* Advisory Council on Historic Preservation (ACHP). Palm Springs, CA.
2010 – *The Natural and Cultural History of Ancient Lake Cahuilla.* County of Riverside Transportation and Land Management Agency Continuing Education Professional Seminar. Palm Desert, CA.
2010 – *Connecting the Dots with a Regional Perspective: Village Footprints (Pechanga Cultural Resources Department).* County of Riverside Transportation and Land Management Agency Continuing Education Professional Seminar. Palm Desert, CA.
2009 – *Geology for Archaeologists.* County of Riverside Transportation and Land Management Agency Continuing Education Professional Seminar. Palm Desert, CA.
2009 – *Riverside County History and Research Resources.* County of Riverside Transportation and Land Management Agency Continuing Education Professional Seminar. Palm Desert, CA.
2007 – *An Introduction to Professional Practice under Section 106 of the NHPA.* SWCA. Mission Viejo, CA.
2006 – *Project Management Fundamentals*. ZweigWhite AIA/CES course. Michael Brandman Associates, Irvine, CA.
2006 – *CEQA Basics: Understanding the California Environmental Process*. AEP. Chapman University, Orange, CA.
2006 – *Governor's Office of Planning and Research (OPR) Land Use Planning and the Protection of Native American Cultural Places.* AEP. Irvine, CA.

Jennifer M. Sanka, M.A., RPA
Continued

EDUCATION

M.A., Religion (Hebrew Bible and Archaeology) – 2003, Duke University, Durham, NC
Graduate Certificate, Women's Studies – 2003, Duke University, Durham, NC
B.A., Anthropology, Comparative Religion (with Honors Thesis), and Classical Humanities – 2001, Miami University, Oxford, OH

Selected Project Experience

2015-2016

Requa Avenue Sewer Interceptor Project Cultural Resources Survey and State Water Resources Control Board (SWRCB)/State Historic Preservation Officer (SHPO) Coordination, Indio, Riverside County, CA; Valley Sanitary District. Principal Investigator and author of a cultural resources assessment (CRA) addressing upgrades to the existing City of Indio sewer system. This study was completed in accordance with the SWRCB CEQA-Plus guidelines. Responsibilities included generating the technical report, supporting memorandums, SHPO cover letter, and SHPO review package in coordination with the SWRCB Cultural Resources Officer. In addition, seven previously recorded resources were addressed via DPR 523 Update Forms and one new resource was recorded. Recommendations for NRHP eligibility were provided for resources located in the project's APE.

2015-2016

6563 East Avenue Project Archaeological Resources Survey, City of Rancho Cucamonga, San Bernardino County, CA; GFR Homes. Principal Investigator and author of a Phase I CRA completed in accordance with CEQA. This project included the recordation and CRHR evaluation of the archaeological component of an NRHP eligible built-environment resource.

2015 **APN 963-010-006 Project (TR 32323) Cultural Resources Survey, French Valley Area, Riverside County, CA; Richland Communities.** Principal Investigator and author of a Phase I CRA addressing proposed residential development on 19.36 acres. The study was completed in accordance with CEQA and the County of Riverside Guidelines for Cultural Resources Review.

2012-2014

Johnson Avenue Sewer Relief Project Cultural Resources Survey and SHPO Coordination, El Cajon, San Diego County, CA; City of El Cajon. Principal Investigator responsible for a pedestrian survey and author of a CRA addressing upgrades to the existing City of El Cajon sewer system. The study was performed at the request of the City of El Cajon and was completed in accordance with the SWRCB CEQA-Plus guidelines. Responsibilities included generating the technical report, a Mitigation-Monitoring and Treatment Plan, and coordination with the SWRCB Cultural Resources Officer, local Native American groups and individuals, and SHPO.

2011 **Massachusetts Avenue and Boulevard Drive Sewer Main Improvements Project Cultural Resources Survey, La Mesa, San Diego County, CA; City of La Mesa.** Principal Investigator responsible for a pedestrian field survey and author of a CRA. The archaeological survey was completed at the request of the City of La Mesa and considered proposed improvements to an existing sewer main. The resultant study was completed in accordance with Section 106 of the NHPA to support ACOE permitting efforts for the project.

Jennifer M. Sanka, M.A., RPA
Continued

Selected Project Experience (Continued)

2010-2011

Ivy Street Bridge Replacement Archaeological Monitoring Project, Murrieta, Riverside County, CA; City of Murrieta. Principal Investigator for the mitigation-monitoring program implemented for the Ivy Street Bridge Replacement Project. The monitoring program was required by an IS-MND for the project, as well as the recommendations of Caltrans. The IS-MND and Caltrans-compliant cultural resources documentation identified one historic property within the Ivy Street Bridge Replacement project site and established an ESA where all ground-disturbing activities required full-time archaeological and Native American monitoring. The detected prehistoric resources were documented and evaluated in the field and subsequently provided to the Native American monitors in accordance with a Mitigation Monitoring and Resource Treatment plan drafted by the Pechanga Band of Luiseno Indians. Responsibilities included management of field crew members, coordination with Native American monitors, and certifying the resultant report.

2007-2013

Public Safety Enterprise Communication (PSEC) Project, Orange, Imperial, Riverside, San Bernardino, and San Diego Counties, CA; Riverside County Facilities Management. Associate Project Manager, Principal Investigator (Archaeology) and Cultural Resources Task Manager for the PSEC project, which involved the placement of up to 87 new communication facilities for the county sheriff and fire departments throughout Riverside County. Phases 1 and 2 (2007-2009) included experience as the Principal Investigator and Cultural Resources Task Manager for the cultural resources constraints analysis in support of an EIR-EA. Responsibilities included conducting and managing records searches and Class III intensive pedestrian surveys/Phase I surveys for over 165 proposed emergency services radio tower facilities throughout Riverside County and along the Riverside County borders in Orange, Imperial, San Bernardino, and San Diego counties. This sizable work effort included communication and permitting efforts with several district offices of the BLM, the USFS, and the National Park Service, as well as informal consultation efforts with local resource agencies and numerous southern California Native American groups and individuals. Phases 1 and 2 involved the supervision of various staff members and several subcontracted archaeologists and architectural historians. Phase 3 (2009-2013) included the management of mitigation compliance at all PSEC project sites, as well as the compilation of EAs for 25 sites on BLM, USFS, ACOE, NPS, and BIA lands. All EAs required the completion of cultural resources technical reports. Three EAs were prepared for the BLM, one for the ACOE, and three for the BIA. The preparation of the BIA EA documents included close coordination with the Santa Rosa Band of Cahuilla Indians and the Colorado River Indian Tribes. Additional duties included aiding the USFS in the preparation of multiple EAs located on the San Bernardino and Cleveland National Forests.

William R. Gillean, B.S.
Archaeologist

Mr. Gillean has gained more than 10 years of archaeological survey, testing, and excavation experience in Arizona, California, and Nevada. His duties at L&L include archaeological mitigation monitoring, Phase I surveys, California Historical Resources Information System (CHRIS) research, Native American Heritage Commission (NAHC) Sacred Lands Search (SLS) requests, Native American information scoping, completion of site records, and assisting senior staff with technical reports. He has experience with a wide range of GPS data collectors, photographic equipment, and software programs. He holds a Bachelor of Science in Anthropology with an emphasis in Cultural Resource Management from Cal Poly, Pomona.

PROFESSIONAL HISTORY

2015-present – Archaeologist, L&L Environmental, Inc. Redlands, CA. Performs field surveys, research, and completes site recordation for projects in southern California. Contributes to technical reports.

2013-present – Archaeologist, First Carbon Solutions. Irvine, CA. Performs archaeological mitigation monitoring in San Bernardino and Riverside Counties, California.

2010-2015 – Archaeologist, Atkins. San Bernardino, CA. Performed field surveys, research, completed site records, contributed to technical reports, assisted with Native American information scoping letters, and coordinated with the NAHC for SLS requests. Performed archaeological mitigation monitoring in San Bernardino and Riverside Counties, California.

2006-2010 – Archaeologist, U.S. Department of Agriculture (USDA) Forest Service, Skyforest, CA. Performed field surveys, subsurface testing programs, and data recovery projects throughout the San Bernardino and Angeles National Forests in southern California. Completed site records, authored and contributed to technical reports, conducted archaeological reconnaissance and inventory of fire suppression activities in support of the Butler II, Grass Valley, Slide, and Station fires. Made recommendations for minimizing impacts to archeological sites and performed mitigation monitoring in archaeologically sensitive areas during project implementation.

2004-2007 – Archaeologist, L&L Environmental, Inc. Corona, CA. Performed field surveys, research, subsurface testing programs, and data recovery projects in Riverside, San Bernardino, and Inyo Counties, California. Contributed to technical reports and performed archaeological mitigation monitoring.

2003-2004 – Field Technician, Center for Archaeological Research, California State University, Bakersfield. Bakersfield, CA. Provided technical support for the archaeological reconnaissance and inventory of over 40 miles of the Southern California Edison power line corridor located within the San Bernardino National Forest.

PROFESSIONAL DEVELOPMENT

2010 – Applied NEPA. USDA Forest Service. San Bernardino, CA.

2008 – The Section 106 Essentials. USDA Forest Service. Sacramento, CA.

EDUCATION

B.S., Anthropology (Cultural Resource Management Emphasis) – 2002, Cal Poly, Pomona, CA

William R. Gillean, B.S.
Continued

Selected Project Experience

Murrieta Hills Specific Plan, Murrieta, Riverside County, CA. Field technician for the pedestrian survey of over 900 acres of the Murrieta Hills. Project responsibilities included intensive pedestrian survey, relocation and updating of previously recorded sites, and recordation of sites not previously recorded or encountered.

Habitat Conservation Plan for the Federally Endangered Delhi Sands Flower-Loving Fly, Colton, San Bernardino County, CA. Field technician for the City of Colton Habitat Conservation Plan for the Federally Endangered Delhi Sands Flower-Loving Fly Project. This project considers the issuance of an incidental take permit by the U.S. Fish and Wildlife Service (USFWS) under Section 10 of the Endangered Species Act, and requires USFWS review under Section 106 of the NHPA. The project area considers approximately 150-acres of land proposed to be subject to the permit, and was completed at the request of The Altum Group for the City of Colton. Responsibilities included completing a records search at the AIC, Native American information-scoping, field survey, and contributions to the technical report.

Safe Routes to School Project, Palm Springs, Riverside County, CA. Field technician responsible for assisting with the completion of an ASR and an HPSR in support of the City of Palm Springs Safe Routes to School Project. This FHWA Local Assistance Funding Project requires Caltrans-compliant documentation and Caltrans review under Section 106 of the NHPA. The proposed project includes the installation of a variety of medians, bulb-outs and chokers designed to control the flow of traffic in the vicinity of local elementary and middle schools. The project area consists of ten non-contiguous sites found throughout the entire City. Responsibilities included completing a records search at the Eastern Information Center (EIC), Native American information scoping, field survey, and contributions to the technical report.

Adelfa Booster Station Redesign Survey, Community of Lakeland Village, Riverside County, CA. Field technician assisting with a Phase I Cultural Resources Assessment addressing upgrades to the existing Elsinore Valley Municipal Water District (EVMWD) distribution system. The study was performed at the request of the EVMWD and was completed in accordance with CEQA. Responsibilities included completing a records search at the EIC, Native American information scoping, field survey, and contributions to the technical report.

Temescal Canyon Road Improvements Survey, Corona Vicinity, Riverside County, CA. Field technician responsible for assisting with the field survey and completion of a Phase I Cultural Resources Assessment for proposed improvements to Temescal Canyon Road. The study was performed at the request of the Riverside County Redevelopment Agency and was completed in accordance with CEQA. One previously recorded prehistoric archaeological site was detected within the project area and was recommended ineligible for inclusion in the CRHR. The Cultural Resources Assessment was submitted to the USACE to support permitting efforts for the project.

William R. Gillean, B.S.
Continued

Selected Project Experience (Continued)

Ivy Street Bridge Replacement Archaeological Monitoring Project, Murrieta, Riverside County, CA. Monitoring Crew Chief for the mitigation monitoring program implemented for the Ivy Street Bridge Replacement Project. All detected prehistoric resources were documented and evaluated in the field and subsequently provided to the Native American monitors in accordance with a Mitigation Monitoring and Resource Treatment plan drafted by the Pechanga Band of Luiseno Indians. Responsibilities included coordination with Native American monitors, completing DPR 523 Forms, and co-authoring the resultant report.

Baldy Mesa Unauthorized OHV Rehabilitation Project on the Front Country Ranger District, San Bernardino National Forest, CA. Archaeologist responsible for pedestrian survey of several miles of unauthorized OHV trails, the relocation and update of previously recorded sites, location and recordation of new sites, and mitigation monitoring during project implementation.

San Sevaine Hazard Tree Removal Project on the Front Country Ranger District, San Bernardino National Forest, CA. Archaeologist responsible for the relocation and update of previously recorded sites, location and recordation of new sites, and performed mitigation-monitoring during project implementation.

Butler II, Grass Valley, and Slide Fires Survey Project on the Mountain Top Ranger District, San Bernardino National Forest, CA. Conducted archeological reconnaissance/inventory of fire suppression dozer lines in support of the Butler II, Grass Valley, and Slide fires. Made recommendations for minimizing impacts to archeological sites, and performed mitigation monitoring in archaeologically sensitive areas.

APPENDIX B

SCCIC Records Search Form

SCCIC JOB #	DATE	ACCESS #	TIME IN/OUT	COUNTY SEARCHED	CLIENT INFO	SCCIC USE ONLY	SCCIC INV INFO
17808	7/6		Time in: 9:30 Time out: 2:00	CIRCLE ONE OR MORE Los Angeles Orange Ventura San Bernardino	Your Name: Bill Gillean Company Name: L&L Environmental, Inc Billing Address: 700 E. Redlands Blvd Suite U-351 Redlands, CA 92373 E-Mail Address for invoice: jsouka@llenvironc.com Project Name: Greenspot Partners, Inc. GSPI-05-646	Copy Code: 45 In-House Regular / Rush Handling / QC PDF Flat Fee Copies /PDF: 453 Biblio Pgs /PDF: 2 TOTAL Copies /PDF	# EMAIL___ MAIL___ N/C___ VOID___

APPENDIX C

Photographs

Photograph 1. Overview of the northern project area boundary, taken from the northeast project corner. View to the west.

Photograph 4. Overview of the western project area boundary, taken from near the center of the boundary. View to the south.

Photograph 2. Overview of the northern project area boundary, taken from the northwest project corner. View to the east.

Photograph 5. Overview of the southern project area boundary, taken from the southwest project corner. View to the east.

Photograph 3. Overview of the western project area boundary, taken from the northwest project corner. View to the south.

Photograph 6. Overview of the southern project area boundary, taken from the southeast project corner. View to the west.

Photograph 7. Overview of the eastern project area boundary, taken from near the center of the boundary. View to the south.

Photograph 10. Overview of an area exhibiting excellent surface visibility and modern refuse. View to the east.

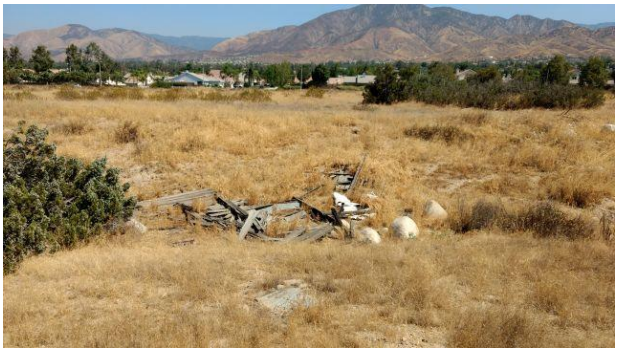
Photograph 8. Overview of the eastern project area boundary, taken from near the center of the boundary. View to the north.

Photograph 11. Overview of construction debris, facing east.

Photograph 9. Overview of an area exhibiting excellent surface visibility and modern refuse. View to the south.

Photograph 12. Overview of cobble and mortar, facing south.

Photograph 13. View of the eastern extent of 36-6848/CA-SBR-6848H within the project area, facing west.



Photograph 16. Overview of 36-7434/CA-SBR-7434H, facing north.

Photograph 14. View of the western extent of 36-6848/CA-SBR-6848H within the project area, facing east.

Photograph 17. Overview of 36-12264/CA-SBR-12205H, facing north.

Photograph 15. Overview of the recorded location of 36-6853/CA-SBR-6853H. View to the west.

Photograph 18. Overview of 36-12265 taken from near the eastern site boundary. View to the west.

APPENDIX D

Sacred Lands Search

Sacred Lands File & Native American Contacts List Request

Native American Heritage Commission

1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: HeatherGlen Project/City of Highland Tract 17604 (L&L Project Number GSPI-05-646)

County: San Bernardino Count

USGS Quadrangle Name: Redlands, CA

Township: 1 South Range: 3 West Section(s): 2

Company/Firm/Agency: L&L Environmental, Inc.

Contact Person: Jennifer M. Sanka, Archaeologist

Street Address: Physical Address – 721 Nevada Street, Suite 307 // Mailing Address - 700 East Redlands Boulevard, #U351

City: Redlands, CA Zip: 92373

Phone: 909-335-9897

Fax: 909-335-9893

Email: JSanka@llenviroinc.com

Project Description:

The proposed project is the construction of a residential development as outlined in Tract 17604. The project occupies approximately 60 acres and is generally located in the southwestern portion of San Bernardino County, California. Specifically, it can be found within Section 2 of T1S, R3W as shown on the USGS *Redlands, CA* 7.5' topographic quadrangle map

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
Environmental and Cultural Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710

June 29, 2017

Jennifer M. Sanka
L&L Environmental, Inc.

Sent by E-mail: jsanka@llenviroinc.com

RE: Proposed Heather Glen/ City of Highland Tract 17604 (L&L Project Number GSPI-05-646) Project, City of Highland; Redlands USGS Quadrangle, San Bernardino County, California

Dear Ms. Sanka:

Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above referenced counties. Please note that the intent of the reference codes below is to avoid or mitigate impacts to tribal cultural resources, as defined, for California Environmental Quality Act (CEQA) projects under AB-52.

As of July 1, 2015, Public Resources Code Sections 21080.3.1 and 21080.3.2 **require public agencies** to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose mitigating impacts to tribal cultural resources:

> **Within 14 days** of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section. (Public Resources Code Section 21080.3.1(d))

The law does not preclude agencies from initiating consultation with the tribes that are culturally and traditionally affiliated with their jurisdictions. The NAHC believes that in fact that this is the best practice to ensure that tribes are consulted commensurate with the intent of the law.

In accordance with Public Resources Code Section 21080.3.1(d), formal notification must include a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation. The NAHC believes that agencies should also include with their notification letters information regarding any cultural resources assessment that has been completed on the APE, such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

   - A listing of any and all known cultural resources have already been recorded on or adjacent to the APE;
   - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
   - If the probability is low, moderate, or high that cultural resources are located in the APE.
   - Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the potential APE; and
   - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

   - Any report that may contain site forms, site significance, and suggested mitigation measurers.

     All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure in accordance with Government Code Section 6254.10.

3. The results of any Sacred Lands File (SFL) check conducted through Native American Heritage Commission. A search of the SFL was completed for the project with negative results.

4. Any ethnographic studies conducted for any area including all or part of the potential APE; and

5. Any geotechnical reports regarding all or part of the potential APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS is not exhaustive, and a negative response to these searches does not preclude the existence of a cultural place. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the case that they do, having the information beforehand well help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance we are able to assure that our consultation list contains current information.

If you have any questions, please contact me at my email address: gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst

Native American Heritage Commission
Native American Contact List
San Bernardino County
6/29/2017

Agua Caliente Band of Cahuilla Indians
Patricia Garcia-Plotkin, Director
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264 — Luiseno
Phone: (760) 699 - 6907
Fax: (760) 699-6924
ACBCI-THPO@aguacaliente.net

Agua Caliente Band of Cahuilla Indians
Jeff Grubbe, Chairperson
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264 — Luiseno
Phone: (760) 699 - 6800
Fax: (760) 699-6919

Augustine Band of Cahuilla Mission Indians
Amanda Vance, Chairperson
P.O. Box 846 — Cahuilla
Coachella, CA, 92236
Phone: (760) 398 - 4722
Fax: (760) 369-7161

Cabazon Band of Mission Indians
Doug Welmas, Chairperson
84-245 Indio Springs Parkway — Cahuilla
Indio, CA, 92203
Phone: (760) 342 - 2593
Fax: (760) 347-7880

Cahuilla Band of Indians
Daniel Salgado, Chairperson
52701 U.S. Highway 371 — Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 5549
Fax: (951) 763-2808
Chairman@cahuilla.net

Los Coyotes Band of Mission Indians
Shane Chapparosa, Chairperson
P.O. Box 189 — Cahuilla
Warner Springs, CA, 92086-0189
Phone: (760) 782 - 0711
Fax: (760) 782-0712
Chapparosa@msn.com

Los Coyotes Band of Mission Indians
John Perada, Environmental Director
P. O. Box 189 — Cahuilla
Warner Springs, CA, 92086
Phone: (760) 782 - 0712
Fax: (760) 782-2730

Morongo Band of Mission Indians
Robert Martin, Chairperson
12700 Pumarra Rroad — Cahuilla
Banning, CA, 92220 — Serrano
Phone: (951) 849 - 8807
Fax: (951) 922-8146

Morongo Band of Mission Indians
Denisa Torres, Cultural Resources Manager
12700 Pumarra Rroad — Cahuilla
Banning, CA, 92220 — Serrano
Phone: (951) 849 - 8807
Fax: (951) 922-8146
dtorres@morongo-nsn.gov

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

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 Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Heather Glen/ City of Highland Tract 17604 Project, San Bernardino County.

PROJ-2017-003571 — 06/29/2017 08:46 AM — 1 of 2

Native American Heritage Commission
Native American Contact List
San Bernardino County
6/29/2017

Ramona Band of Cahuilla Mission Indians
John Gomez, Environmental Coordinator
P. O. Box 391670 — Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 4105
Fax: (951) 763-4325
jgomez@ramonatribe.com

San Fernando Band of Mission Indians
John Valenzuela, Chairperson
P.O. Box 221838 — Kitanemuk
Newhall, CA, 91322 — Serrano
Phone: (760) 885 - 0955 — Tataviam
tsen2u@hotmail.com

San Manuel Band of Mission Indians
Lee Clauss, Director of Cultural Resources
26569 Community Center Drive — Serrano
Highland, CA, 92346
Phone: (909) 864 - 8933
Fax: (909) 864-3370
lclauss@sanmanuel-nsn.gov

Santa Rosa Band of Mission Indians
(951) 659-2700Steven Estrada, Chairperson
P.O. Box 391820 — Cahuilla
Anza, CA, 92539
Phone: (951) 659 - 2700
Fax: (951) 659-2228

Serrano Nation of Mission Indians
Goldie Walker, Chairperson
P.O. Box 343 — Serrano
Patton, CA, 92369
Phone: (909)528-9027

Soboba Band of Luiseno Indians
Joseph Ontiveros, Cultural Resource Department
P.O. BOX 487 — Cahuilla
San Jacinto, CA. 92581 — Luiseno
Phone: (951) 663 - 5279
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

Soboba Band of Luiseno Indians
Carrie Garcia, Cultural Resources Manager
P. O. Box 487 — Cahuilla
San Jacinto, CA, 92583 — Luiseno
Phone: (951)654-2765
Fax: (951)654-4198
carrieg@soboba-nsn.gov

Soboba Band of Luiseno Indians
Rosemary Morillo, Chairperson
P. O. Box 487 — Cahuilla
San Jacinto, CA, 92583 — Luiseno
Phone: (951) 654 - 2765
Fax: (951) 654-4198
rmorillo@soboba-nsn.gov

Torres-Martinez Desert Cahuilla Indians
Michael Mirelez, Cultural Resource Coordinator
P.O. Box 1160 — Cahuilla
Thermal, CA, 92274
Phone: (760) 399 - 0022
Fax: (760) 397-8146
mmirelez@tmdci.org

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 Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Heather Glen/ City of Highland Tract 17604 Project, San Bernardino County.

PROJ-2017-003571 — 06/29/2017 08:46 AM — 2 of 2

APPENDIX E

Native American Coordination

L&L ENVIRONMENTAL, INC.
REGULATORY SERVICES
BIOLOGICAL & CULTURAL INVESTIGATIONS & MONITORING

July 06, 2017

SAMPLE

REGARDING: INFORMATION REQUEST LETTER ASSOCIATED WITH ONE CULTURAL RESOURCES ASSESSMENT PROJECT – THE HEATHERGLEN/TRACT 17604 PROJECT, LOCATED ON ±60 ACRES IN THE CITY OF HIGHLAND, SAN BERNARDINO COUNTY, CALIFORNIA (USGS REDLANDS, CA. 7.5-MINUTE TOPOGRAPHIC QUADRANGLE) (L&L PROJECT GSPI-05-646)

To Whom It May Concern:

L&L Environmental, Inc. (L&L) is in the process of completing a California Environmental Quality Act (CEQA) compliant cultural resources assessment for a project area totaling ±60 acres in the City of Highland, San Bernardino County, California. The proposed project includes the construction of a residential development with associated roads.

Environmental regulations, including CEQA, consider the impacts a project may have on cultural resources. To determine whether the proposed project may impact any cultural resources, L&L has conducted research on the project area, including the request of a Sacred Land Search (SLS) from the Native American Heritage Commission (NAHC). The NAHC does not indicate that any NAHC-recorded Native American cultural resources are located in the project area. However, the NAHC recommends additional coordination with regard to development projects in order to avoid any unanticipated discoveries. To this end, the NAHC has listed you as a contact and has indicated that you may have information about the potential for this project area to contain resources not found in the SLS. This letter is not associated with a formal consultation process, but is an information request that shall be included in our cultural resources assessment document.

We have enclosed maps showing the location of the project area. Generally, the project area is located in the southwestern portion of San Bernardino County, California, and is situated north of Interstate 10 (Figure 1). Specifically, it can be found within Section 2 of Township 1 South, Range 3 West as shown on the USGS *Redlands, CA* 7.5' topographic quadrangle map (Figure 2). The project is located immediately to the south of Greenspot Road in the City of Highland (Figure 3).

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 909.335.9897 or JSanka@llenviroinc.com if you have any questions or information or you may address and mail a response to my attention at our office.

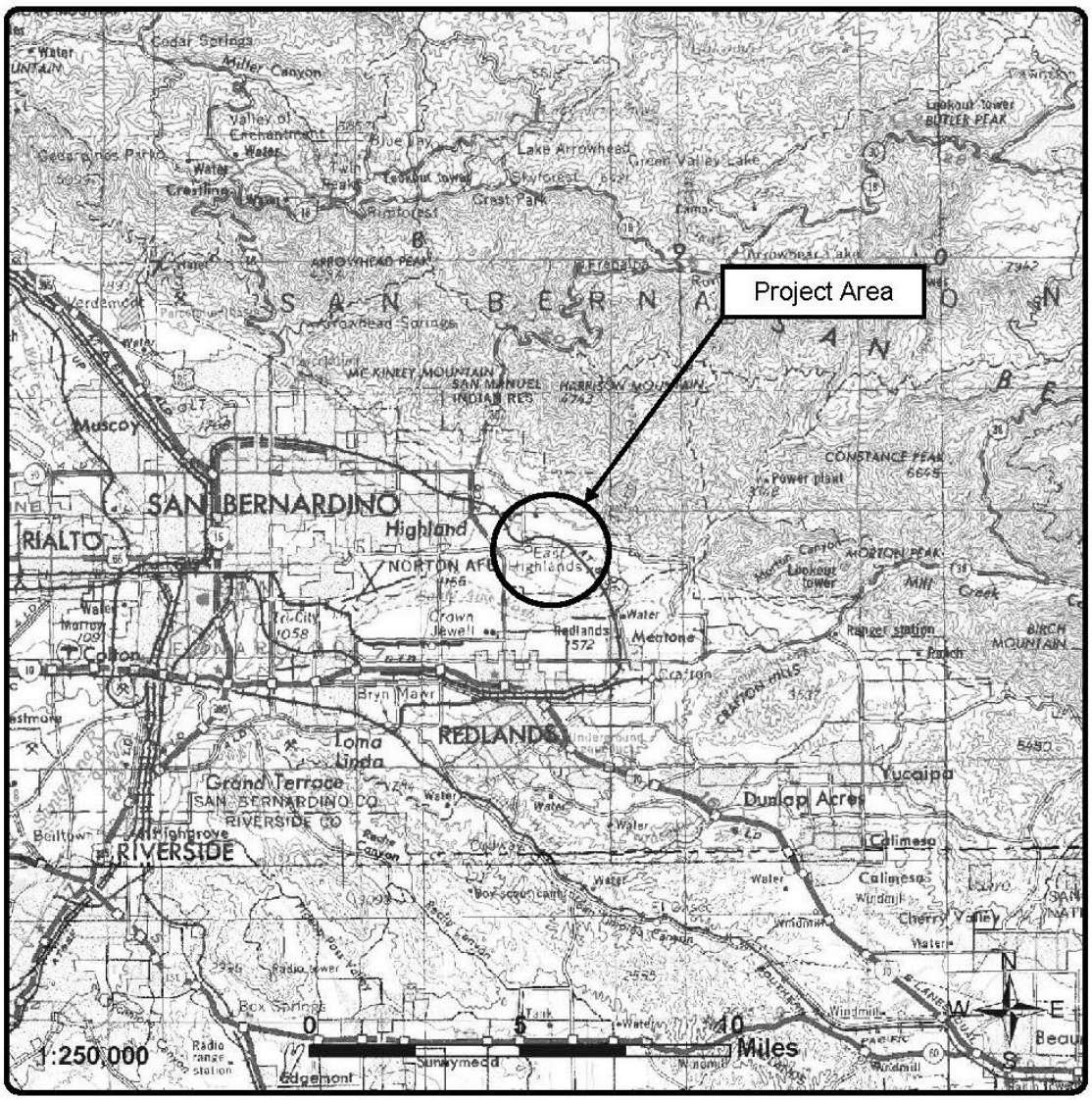
Celebrating 20 Years of Service to Southern CA and the Great Basin, WBE Certified (Caltrans, CPUC, WBENC)
Mailing Address: 700 East Redlands Blvd, Suite U, PMB #351, Redlands CA 92373
Delivery Address: 721 Nevada Street, Suite 307, Redlands, CA
• Phone & 909-335-9897 • & 909-335-9893

Sincerely,
L&L Environmental, Inc.

Jennifer M. Sanka, M.A., RPA
Archaeologist

JMS/al

Encl: Figure 1: Project Vicinity Map
Figure 2: Project Location Map
Figure 3: Aerial Photograph



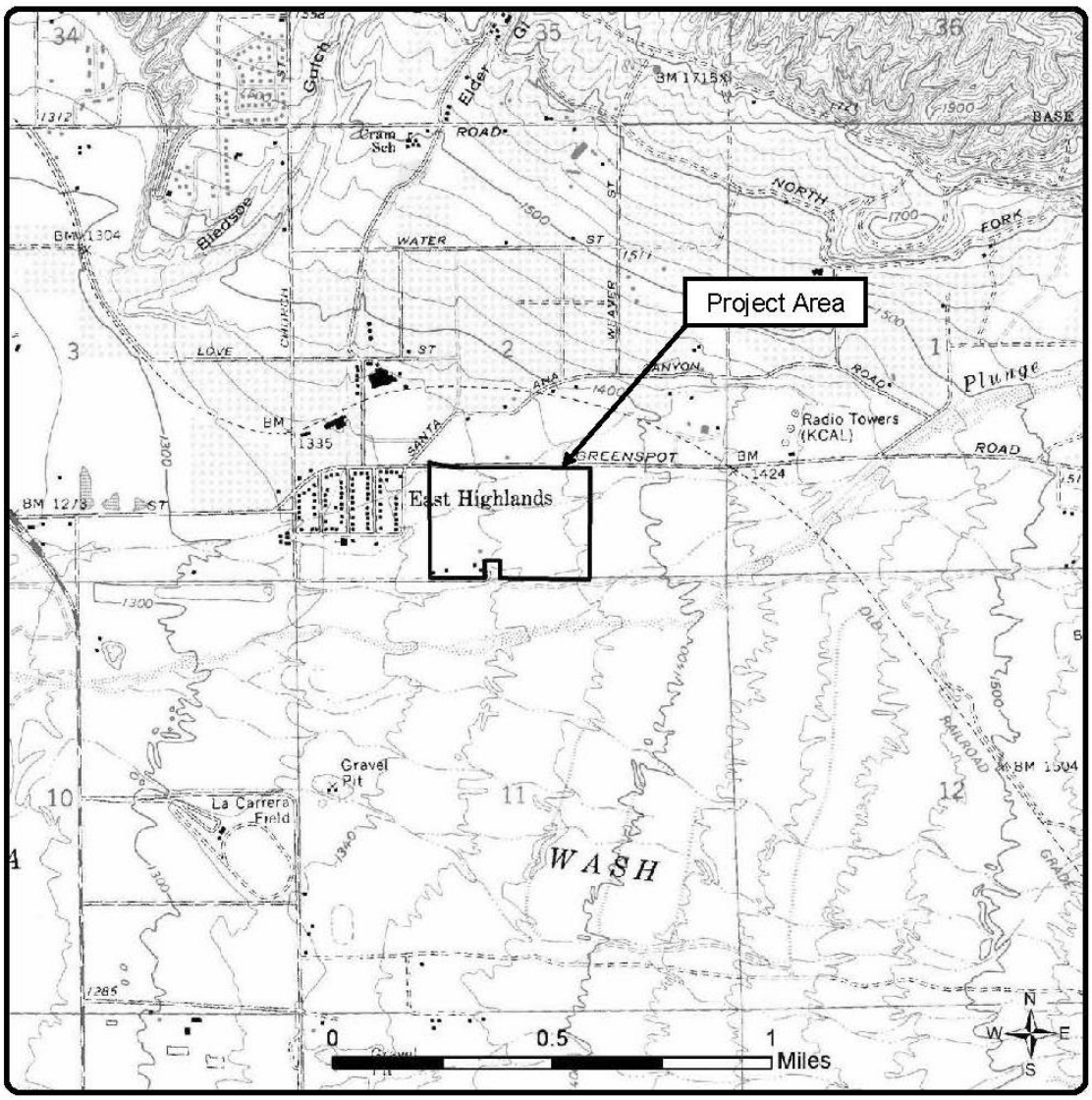
L&L Environmental, Inc.

BIOLOGICAL AND CULTURAL INVESTIGATIONS AND MONITORING

GSPI-05-646
July 2017

Figure 1

Project Vicinity Map
HeatherGlen/Tract 17604 Project
City of Highland
San Bernardino County, California



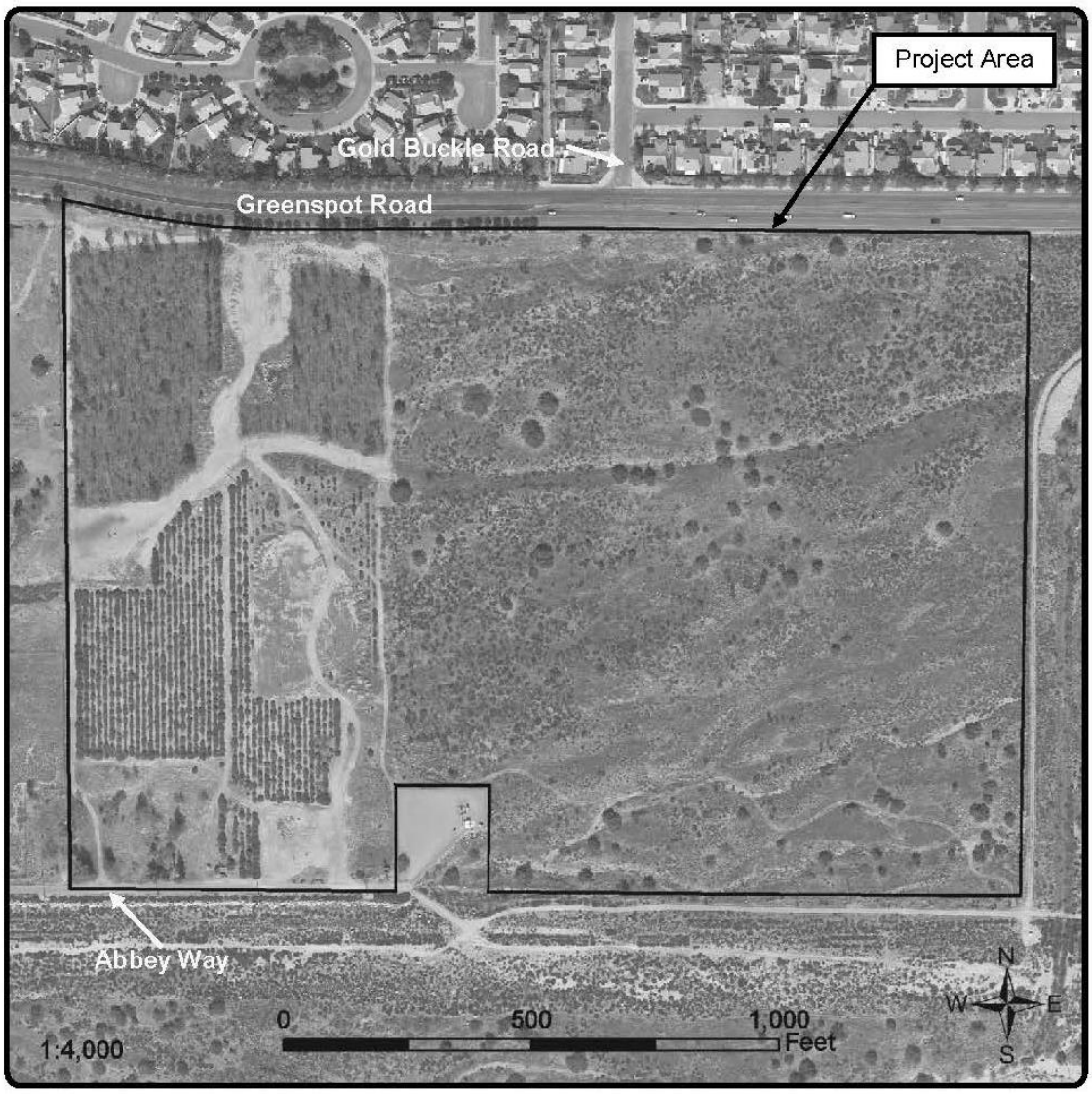
L&L Environmental, Inc.

BIOLOGICAL AND CULTURAL INVESTIGATIONS AND MONITORING

GSPI-05-646
July 2017

Figure 2

Project Location Map
(USGS Redlands [1988] quadrangle,
Section 2, Township 1 South, Range 3 West)
HeatherGlen/Tract 17604 Project
City of Highland
San Bernardino County, California



L&L Environmental, Inc.

BIOLOGICAL AND CULTURAL INVESTIGATIONS AND MONITORING

GSPI-05-646
July 2017

Figure 3

Aerial Photograph
(Photo obtained from Google Earth, October 2016)
HeatherGlen/Tract 17604 Project
City of Highland
San Bernardino County, California

Heather Glen/Tract 17604 Project, Highland, CA

Jessica Mauck <JMauck@sanmanuel-nsn.gov>

Thu 8/3/2017 3:51 PM

To:Jennifer Sanka <jsanka@llenviroinc.com>;

Hello Jennifer,

Thank you for contacting the San Manuel Band of Mission Indians (SMBMI) regarding the above referenced project. SMBMI appreciates the opportunity to review the project documentation, which was received by our Cultural Resources Management Department on 6 July 2017. The proposed project area exists within Serrano ancestral territory and, therefore, is of interest to the Tribe. The proposed project location is located approximately .05 - .10 miles from Plunge Creek as it comes down from the San Bernardino Mountains near the SMBMI reservation. This body of water is significant to SMBMI and the areas around along the creek contain significant cultural resources throughout. Due to the nature and location of the proposed project, SMBMI respectfully requests a copy of the cultural report and planning documents, to include:

1. The name and contact information of the lead agency POC, once determined;
2. A records search of the Sacred Lands Files managed by the CA Native American Heritage Commission (NAHC) and a site file and associated literature search at the appropriate California Historical Resources Information System Information Center (CHRIS) to identify any and all recorded cultural resources within a 1-mile radius of the proposed project location(s), as well as general background research using GLO maps, Sanborn maps, historical atlases, city and state records, and other historical documents;
3. Additional maps/illustrations be provided, specifically including:
   a. an aerial map;
   b. a map indicating the search radius of the background research, as well as the locations where previous studies were conducted and where known historic resources are located;
   c. photographs of the proposed project area;
   d. engineering/design plans for the proposed project, especially plans indicating where ground-disturbing activities will occur and to what horizontal and vertical extent.
4. A Phase I archaeological investigation of the totality (100%) of the proposed project's area of potential effect (APE) via the employ of a number of methods, including pedestrian survey that employs a transect interval of no more than 10 meters, shovel test probes, remote sensing, and/or deep testing via controlled units or trenching of appropriate landscapes. The use of specific field methods and techniques must be justifiable and dependent upon the type and amount of ground cover present (visibility), the topographic setting (degree of slope, proximity to water, etc.), past land use (degree of prior disturbance), and probability for encountering previously undocumented resources during the proposed project (low, moderate, high probability). We strongly recommend that visibility must equal 50% or greater of the ground surface area to use pedestrian survey/reconnaissance only. Areas that have not been disturbed in the past and/or high probability areas must be explored using sub-surface testing methods in addition to pedestrian survey. Additionally, we ask that there be no collection of artifacts or excavation of features during any Phase I archaeological survey.

The provision of this information will assist San Manuel Band of Mission Indians in ascertaining whether or not the Tribe will assume consulting party status under CEQA with the lead agency. If you would prefer we contact the lead agency directly for the information above, though compiled by the consulting party, please let us know and provide the information in line 1. This letter is merely intended to take part in information sharing to ensure efficiency of the process for SMBMI, the lead agency, and the consultants. If you should have any further

questions with regard to this matter, please do not hesitate to contact me at your convenience, as I will be your Point of Contact (POC) for SMBMI with respect to this project.

Respectfully,

Jessica Mauck
CULTURAL RESOURCES ANALYST
O: (909) 864-8933 x3249
M: (909) 725-9054
26569 Community Center Drive, Highland California 92346
SAN MANUEL
BAND OF MISSION INDIANS

APPENDIX F

DPR 523 Forms