APPENDIX D
CULTURAL RESOURCES ASSESSMENT



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Cultural Resources Assessment

Glendora Family Bike Park Project

City of Glendora, Los Angeles County, California

Prepared for:
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November 2024

MANAGEMENT SUMMARY

Duke Cultural Resources Management, LLC (DUKE CRM), is under contract to the City of Glendora–Recreation & Human Services Department (CLIENT) to provide cultural and historical resources services for the Glendora Family Bike Park Project (Project) in the city of Glendora, Los Angeles County, California. Initial calculations of the Project's area of potential effects (APE) were that the APE was 318 acres (i.e.: the entire park). However, since the APE is limited to the existing trails and widening. Therefore, the APE has been reduced to 6.54 miles (34,531.2) of trails and an additional approximately 3-acre bike park and parking lot. The purpose of this study is to provide the necessary information and analysis to the U.S. Department of the Interior National Park Service, the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA/Section 106) lead agency to determine whether the proposed Project would result in adverse effects to historic properties that may exist in or adjacent to the Project APE. This Project is exempt from the California Environmental Quality Act (CEQA).

The cultural and historical resources assessment included a records search for cultural resources at the South Central Coastal Information Center (SCCIC), a requested review of Sacred Lands File (SLF) by the Native American Heritage Commission (NAHC), a field survey of the Project's APE, and research of published resources. The field survey did not identify cultural resources within the Project APE. The SCCIC identified one (1) cultural resource within the park and another resource within the ½-mile records-search buffer. The resource identified within the park is the Boulder Dam–Los Angeles 287.5-kV Transmission Line (P-19-188983), there are no towers within the APE. The line was evaluated for eligibility for listing in the National Register of Historic Places in 1999 and was determined eligible under Criterion C and has been determined eligible for NRHR both individually and as a contributor to a NRHR eligible multi component resource like a district in a federal regulatory process and listed in the CRHR (Status Code 2B). Additionally, the NAHC indicated that the results of the SLF search were positive. During Section 106 consultation, 16 individuals from nine (9) Native American groups were contacted. Of the Tribes contacted, two (2) Tribes, the Cahuilla Band of Indians and the Gabrieleño Band of Mission Indians–Kizh Nation, requested consultation with the City of Glendora. Consultation efforts are ongoing. Analysis indicates that the Project will have no effect on historic properties and that the Project area has a low sensitivity for undiscovered prehistoric or historical period cultural resources.

Cultural resources monitoring during Project implementation is not recommended. However, if cultural resources are encountered during Project development, no further disturbance shall occur until an archaeologist is retained and assesses the nature and significance of the resources. If human remains are encountered, *California State Health and Safety Code* Section 7050.5, states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to *Public Resources Code* Section 5097.98. The County Coroner must be notified of the encountered remains immediately. If the remains are determined to be prehistoric, the coroner will notify the NAHC, which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the remains. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

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TABLE OF ABBREVIATIONS

ADA	Americans with Disabilities Act
APE	area of potential effects
B.A.	Bachelor of Arts
CEQA	California Quality Environmental Act
City	City of Glendora
CLIENT	City of Glendora–Recreation & Human Services Department
DUKE CRM	Duke Cultural Resources Management, LLC
M.A.	Master of Arts
MLD	Most Likely Descendant
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act of 1966, as amended
NRHP	National Register of Historic Places
Project	Glendora Family Bike Park Project
RPA	Registered Professional Archeologist
SCCIC	South Central Coastal Information Center
Section 106	National Historic Preservation Act of 1966, as amended, Section 106
SLF	Sacred Lands File
USGS	U.S. Geological Survey

INTRODUCTION

Duke Cultural Resources Management, LLC (DUKE CRM), is under contract to the City of Glendora– Recreation & Human Services Department (CLIENT) to provide cultural and paleontological resources services for the Glendora Family Bike Park Project (Project) in the city of Glendora, Los Angeles County, California (Figure 1). The purpose of this study is to provide the necessary information and analysis to the U.S. Department of the Interior National Park Service, the National Environmental Policy Act (NEPA) and National Historic Preservation Act of 1966, as amended (NHPA/Section 106), lead agency, to determine whether the proposed Project would result in adverse effects to historic properties that may exist in or adjacent to the Project area of potential effects (APE). This Project is exempt from the California Environmental Quality Act.

PROJECT DESCRIPTION

The Project APE is within South Hills Park, which is bound by Glendora Avenue to the west, Interstate 210 to the south, and residential development on the north and east (Appendix A. Figure 1). Initial calculations of the Project APE were that it was 318 acres (i.e.: the entire park). However, since the APE is limited to the existing trails and widening. Therefore the APE has been reduced to 6.54 miles (34,531.2) of trails and an additional approximately 3-acre bike park and parking lot . The Project is in Sections 5, 6, 31, and 32 of Township 1 North/1 South, Range 9 West, San Bernardino Baseline and Meridian, as depicted on the U.S. Geological Survey (USGS) Glendora and San Dimas, California, 7.5-minute quadrangles (Appendix A. Figures 2 and 3).

The proposed Project will involve the following activities:

- construction of Americans with Disabilities Act– (ADA-) accessible walkways that will connect to all amenities within the park, including parking, restrooms, shade structures, seating areas, viewing areas, trailhead signage, and bike tracks;
- construction of a vault restroom, including two (2) separate stalls that are ADA compliant;
- construction of split-rail fencing between the bicycle pump tracks and the parking area;
- placement of trailhead structure and signage;
- placement of trail directional and signage describing degree of difficulty;
- construction of staging and seating areas;
- construction of a shade pavilion;
- construction of site furnishings (picnic tables, benches, trash/recycling receptacles, bike racks, bicycle repair station);
- construction of gabion-basket walls with native stones as needed for regrading of the road and erosion control;
- landscaping as required per City of Glendora (City) code, Title 21 Zoning/Chapter 21.03 General Regulations/21.03.020 Off-Street Parking and Loading, which requires that a minimum of 5 percent of a parking lot must be landscaped, and in total eight (8) 24-inch box trees will be planted;
- construction of bicycle pump tracks (i.e., a specially designed bike course);
- construction of mountain-bike jump trails ranging from easy/beginner to advanced;
- construction of "climbing trails," which will be a multiuse, bidirectional train 4–6 feet wide and constructed with compacted native soil;
- construction of mountain-bike downhill trails; and
- construction of 48-inch-wide multiuse cross-country trails.

The Project APE was developed by DUKE CRM in consultation with the City and the California Department of Parks and Recreation, Office of Grants and Local Services. The APE map was developed to identify historic properties that may be directly or indirectly affected by the proposed Project, in compliance with 36 *Code of Federal Regulations* 800.16(d). The APE for this undertaking depicts all areas that are expected

to be affected by the proposed Project, including staging and construction-access areas. The Project is anticipated to have a maximum vertical (visual) impact from approximately 15 feet above ground surface, to account for shade-structure height, to an estimated 6 feet below the ground surface, for installation of the 750-gallon tank for the vault restroom structure. Average ground disturbance will be 6–12 inches below the ground surface, to account for grading for the trails and the placement of site furnishings.

SETTING

Natural Setting

The Project is in the low-lying foothill area south of the San Gabriel Mountains known as South Hills and is approximately 2.5 miles south of the boundary of the Angeles National Forest. The Big Dalton Wash, along the northwestern boundary of the park, is the nearest major water source. The surrounding area is characterized by mixed residential and commercial urban development and includes two (2) universities within 1.5 miles.

The Project's location at the contact between the foothills and the lower valley and the presence of a permanent water source would normally suggest moderate potential for archaeological resources.

Cultural

Prehistory

Two (2) primary regional syntheses of the many chronological sequences proposed for southern California are commonly used in the archaeological literature. The first, advanced by Wallace (1955), defines four (4) cultural horizons for the southern California coastal province, each with characteristic local variations:

I. Early Man (~9000–8500 before present [B.P.]),
II. Milling Stone (8500–4000 B.P.),
III. Intermediate (4000–1500 B.P.), and
IV. Late Prehistoric (1500~200 B.P.).

Warren and Crabtree (1986) employed a more ecological approach to the deserts of southern California, defining five (5) periods in prehistory:

I. Lake Mojave (12000–7000 B.P.),
II. Pinto (7000–4000 B.P.),
III. Gypsum (4000–1500 B.P.),
IV. Saratoga Springs (1500–800 B.P.), and
V. Shoshonean (800~200 B.P.).

Warren and Crabtree (1986) viewed cultural continuity and change in terms of various significant environmental shifts, defining the cultural ecological approach for archaeological research of the California deserts. Many changes in settlement pattern and subsistence focus are viewed as cultural adaptations to a changing environment, beginning with the gradual environmental warming in the late Pleistocene, the desiccation of the desert lakes during the early Holocene, the short return to pluvial conditions during the middle Holocene, and the general warming and drying trend, with periodic reversals, that continues to this day.

Ethnography

The Project is within the boundaries of Gabrielino Tribal territory. The name "Gabrielino" was given by the Spanish to the Native Americans that lived within the sphere of influence of the Mission San Gabriel Arcángel. The Gabrielino are one (1) of the least known Native American groups in California. Generally,

their territory included all the Los Angeles Basin, parts of the Santa Ana and Santa Monica Mountains, the area along the coast from Aliso Creek in the south to Topanga Canyon in the north, and San Clemente, San Nicolas, and Santa Catalina Islands (Hoover 2002).

The Gabrielino spoke a dialect of the Cupan group of the Takic language family. This language was part of the larger Uto-Aztecan language stock whose population migrated westward and southward from the Great Basin. The Gabrielino shared this language with neighboring groups to the south and east (Bean and Smith 1978; Shipley 1978). Groups of Gabrielino lived in villages that were autonomous from other villages. One (1) of the most well-established Gabrielino villages is Ashuukshanga. The village is located in the city of Azusa, approximately 2.2 miles west of the Project, and is ultimately the namesake of the modern city (McCawley 1996). Ashuukshanga is one of the Gabrielinos' largest permanent villages and is a short distance south of the mouth of San Gabriel Canyon. There have been several translations of what "Ashuukshanga" means. One report stated that the name means *poco vuelta*, meaning "little turn" and that "the real place is by the bend of the canyon" (Harrington 1986). Another report stated that the name comes from the word *asúk*', or "his grandmother." It means *su abuela la tierra*, translating to "his grandmother the earth" (Harrington 1986). Kroeber offered yet another translation of this place name, suggesting that it may have meant "skunk place" (McCawley 1996).

Each village had access to hunting, collecting, and fishing areas (Bean and Smith 1978). Villages were typically located in or near protected coves, canyons, or foothills and always close to bodies of water. Acorns and shellfish were the most important foods for the Gabrielino, although the types and quantities of different foods varied by season and locale. Other important sources of food were grass and many other seed types, deer, rabbit, jackrabbit, woodrat, mice, ground squirrels, quail, doves, ducks and other fowl, fish, and marine mammals. Typically, women gathered and men hunted, although work tasks often overlapped. Each village had a chief who controlled religious, economic, and warfare authorities. The chief had an assistant and an advisory council who assisted in important decisions and rituals. Each of these positions was hereditary, passed down from generation to generation (Bean and Smith 1978).

Historical Period (A.D. 1542 to Present)

The first Europeans to explore what would become the state of California belonged to the 1542 expedition of Juan Rodriguez Cabrillo, who sailed along, and occasionally landed on, the coast. Europeans are thought to have first visited portions of the interior in 1769, when Gaspar de Portola led a 62-person overland expedition from San Diego to Monterey (Brown 2001; Cramer 1988). Two (2) later expeditions led by Juan Bautista de Anza in 1774 and 1775, from Sonora through southwestern Arizona and southern California, crossed the Santa Ana River at Anza Narrows in today's Santa Ana River Regional Park.

The Spanish government subsequently established missions and military outposts to facilitate colonization of the area and to keep rival European nations out of the area. After Mexico won independence from Spain in 1822, colonization efforts in Alta California decreased. The Spanish mission system was largely abandoned, and the Mexican government bestowed land grants or ranchos to those loyal to the Mexican government, including some Anglo settlers that pledged allegiance to Mexico. Specifically, the majority of the Project is mapped within the "Rancho addition to San Jose". The Mexican period (1822–1848) is largely identified with the ranchos acquired by individuals through the land-grant system, as well as secularization of the missions. Mission secularization began on July 25, 1826, with a decree by Governor Jose Maria de Echeandía and was completed by 1836, after an additional decree in 1831 (Engstrand and Ward 1995).

The end of the Mexican period in California began on June 14, 1846, when a band of American settlers, supported by the American explorer John C. Fremont and his team, captured Mexican General Mariano Guadalupe Vallejo in a dawn raid in Sonoma (Ide 1967 [1880]; Rolle 2003). The Americans raised a flag for the "California Republic," and their actions became known as the "Bear Flag Revolt." The so-called California Republic was short-lived, however. On July 7, 1846, U.S. Navy forces captured Monterey, California, where the U.S. flag was raised (Rolle 2003). On February 2, 1848, the war between the United

States and Mexico ended with the signing of the Treaty of Guadalupe Hidalgo, which greatly expanded U.S. territory (including California) and resulted in Mexico's being paid $15 million for the land (Rolle 2003).

Although gold had been found prior to 1848 in various parts of California, the well-publicized discovery of gold near Sutter's Fort in 1848 dramatically increased the Anglo settlement of California. Although the property rights of rancho owners had been secured by provisions in the Treaty of Guadalupe Hidalgo, California in the early American period experienced the transfer and subdivision of many of the ranchos, as well as a shift from ranching to agriculture as the primary means of subsistence.

According to Culver Heaton (2006), portions of the area now occupied by the city of Glendora were considered public lands bordered on the west by the Rancho Azusa until John Bender and William Bryant Cullen, both confederate veterans of the American Civil War, each homesteaded 160 acres with their families in 1874. Their first crop was castor beans; as additional settlers moved into the area, the agriculture diversified. In 1872, James C. Preston gave settlers 1.5 acres in the northwestern corner of his claim, which became the Fairmount, or Mountain View, Cemetery (Pflueger 1964). In 1877, the Phillip Shorey, John P. Englehart, Cal Johnson, J. Charles West, and James J. West families settled the area. In 1880, the first orange-tree seedlings were planted, beginning the area's long association with citrus (Heaton 2006). In 1886, George D. Whitcomb and other investors formed the Glendora Land Company, a name he created by combining his wife's name (Leadora) with "glen," a reference to a mountain glen behind his home. The Glendora Land Company established the townsite by laying out level streets lined with an estimated 6,000 young pepper trees and subdividing the land into lots (Heaton 2006).

By 1887, the Santa Fe Railway Company had an established line that linked Pasadena and San Diego. Land in Glendora that had sold for between $2.50 and $15.00 an acre in 1879 was divided and sold as $1500.00 lots in 1887 (Dumke 1944). During the 1890s and early 1900s, Glendora became the center of the citrus industry and, at one time, possessed the largest citrus packinghouse in the world (Heaton 2006). Oranges and lemons were packed in boxes with the "Glendora Home" and "Glendora Heights" labels, and even U.S. president William Taft had his citrus shipped monthly from Glendora (Heaton 2006).

The Pacific Electric Railroad Company had extended a line from Los Angeles to Glendora by December 1907 (Heaton 2006). In 1908, Michigan Avenue was paved, and electrical service was available in the town. The City was incorporated on November 13, 1911, and in 1915, the City purchased the Glendora Water Company, securing water for its citizens. By the middle of the twentieth century, the City had evolved from an agricultural center to its continued largely residential nature. In 1971, the City received a $300,000 Federal Legacy of Park grant allowing for the purchase of the first 150 acres of the South Hills Wilderness Park. The Toyon Trail System was opened in 1991, making it the first trail within the South Hills Wilderness Area. The East View Trail was begun in December 1994, and the numbered trail markers were placed along the trail route in June of 1995. Today, the wilderness area has grown to 250 acres and has a total of 15 hiking and multiuse trails (City of Glendora 2024).

METHODS

Research Objectives

The primary purpose of this report is to document potential cultural resources that may be affected by the proposed Project. Therefore, the research design and resulting methodology were to research various archives, contact Native American groups, and survey the Project area to find and document cultural resources.

At the theoretical level, archaeological investigations are based on partial and fragmented remnants of material items from past cultures. Because these cultural items are material, the basic model of study is Cultural Materialism. The premise of Cultural Materialism links materials, as represented by those items in the archaeological record, to the patterned action of human behavior within specific environments (culture) (Harris 1968:659). We consider Cultural Materialism a basic premise encompassing all other assumptions.

The NHPA requires that agencies consider impacts to cultural resources that are potentially eligible for listing in the National Register of Historic Places (NRHP).

Basic research questions include the following:

1. Are cultural resources located within the Project area?
    a. Are conditions conducive to cultural resources within the Project area?
    b. What is the sensitivity of the Project location for cultural resources?
    c. What is the level of prior disturbance to the property?
    d. Are there cultural resources that may be adversely affected by the Project?
    e. What is the potential for buried cultural resources in the Project area?
2. Should any cultural resources be considered potential *historic properties* for the purposes of the NHPA, and do they possess integrity?
3. What impacts will the proposed Project have on any potential *historic properties*?
4. What avoidance and/or mitigation measures can be implemented to reduce the level of effects to listed or potential *historic properties* to less than significant*?*

Research

On August 14, 2024, Morgan Beigle, Master of Arts (M.A.), Registered Professional Archeologist (RPA), with DUKE CRM conducted a records search at the South Central Coastal Information Center (SCCIC). The SCCIC is the Los Angeles County regional office of the California Historical Resources Information System and is located at California State University, Fullerton. This research was undertaken to establish the status and extent of previous surveys in the Project area and to note what types of cultural resources have been identified or might be expected to be present within or adjacent to the Project area. In addition, the records search identified cultural resources listed in or determined eligible for listing in the NRHP within or near the Project area. In addition, Ms. Beigle contacted the Native American Heritage Commission (NAHC) for a search of the SLF on July 18, 2024. The DUKE CRM internal archives were also inspected for relevant background information, along with a review of available historical aerial photographs and USGS topographical maps.

Key Personnel

This report was prepared by Morgan Beigle, M.A., RPA, under the direct supervision of Curt Duke, M.A., RPA (Appendix B). Ms. Beigle holds a Bachelor of Arts (B.A.) degree in Anthropology/Sociology with a minor in Classical Studies from Agnes Scott College in Decatur, Georgia. She received her M.A. degree in Anthropology from California State University, Los Angeles. She meets the Secretary of the Interior's Standards for a Principal Investigator, is certified by the Register of Professional Archaeologists, and has over eight (8) years of experience in California archaeology.

Mr. Duke is the Principal Archaeologist of DUKE CRM. He meets the professional qualifications of the Secretary of the Interior for Prehistoric and Historical Archaeology; he is also an RPA who has worked in all phases of archaeology (archival research, field survey, testing and data recovery excavation, laboratory analysis, and construction monitoring) since 1994. He is also listed with the County of Riverside's as a qualified archaeologist. Mr. Duke holds an M.A. degree in Anthropology with an emphasis in Archaeology from California State University, Fullerton, and a B.A. degree in Anthropology from the University of California, Santa Cruz. He has worked throughout southern and northern California and in parts of Arizona and Nevada.

Ms. Beigle and Ms. Biltonen conducted the field survey of the Project area. Ms. Biltonen has six (6) years of experience in archaeological laboratory and field practices. She is proficient in archaeological survey and site excavations in California and has conducted field and laboratory work in both archaeology and paleontology. She has experience in faunal analysis and the analysis and excavation of human remains.

RESULTS
Records Search

Cultural Resources

Analysis of the SCCIC records-search-map data indicates that there are two (2) previously recorded cultural resources within ½ mile of the Project (Table 1). One (1) of these resources (P-19-188983, the Boulder Dam–Los Angeles 287.5-kV Transmission Line) runs east–west through the Project area. The transmission line consists of 130-foot-tall steel lattice towers, with towers within the park; however, there are no towers in the APE. The line was evaluated for eligibility for listing in the NRHP in 1999 and was determined eligible under Criterion C as an example of point-to-point long-distance high-voltage transmission representing the pinnacle of achievement over 40 years of construction and the development of metropolitan Los Angeles. The transmission line has also been determined eligible for NRHR both individually and as a contributor to a NRHR eligible multi component resource like a district in a federal regulatory process and listed in the CRHR (2B). (Appendix C for Record Search Results).

Table 1. Previously Recorded Cultural Resources within ½ Mile of the Project

Site No.	Age	Description	NRHP Eligibility/ CRHR Code	Distance (ft) and Direction
P-19-001109	prehistoric	sparse lithic scatter	unknown	2,460 feet east
P-19-188983	historical period (built environment)	Boulder Dam–Los Angeles 287.5-kV Transmission Line	Criterion C/2B	within the park

Reports

The SCCIC identified 11 cultural resource reports within ½ mile of the Project area on file, one (1) of which is within the Project boundary (Table 2). Cultural study LA-11057 involved a field survey and records search for a cell site in the southwestern portion of the park. The survey did not observe any cultural resources within the Project area.

Table 2. Cultural Resource Reports within ½ Mile of the Project area

Report No.	Year	Report Title	Author(s)
LA-01008	1981	*Surface Collection and Test Excavations at a Prehistoric Chumash Camp*	Van Horn, David M.
LA-02665	1985	*Cultural Resource Overview and Survey for the Los Angeles County Drainage Area Review Study*	Cottrell, Marie G., James N. Hill, Stephen Van Wormer, and J. Cooper
LA-03508	1985	*Historical Resource Overview and Survey for the Los Angeles County Drainage Area Review Study*	Van Wormer, Stephen R.
LA-05067	1979	*Los Angeles County Road Department Historic Property Survey Gladstone Street—Cash Contract 2854*	unknown
LA-06263	2002	*Cultural Resource Assessment Cingular Wireless Facility No. Vy294-01, Los Angeles County, California*	Duke, Curt
LA-08818	2007	*Cultural Resources Records Search and Site Visit Results for Royal Street Communications, LLC, Candidate La043a (Nextel Monopine Collocation Dragonball), 125 West Dawson Avenue, Glendora, Los Angeles County, California*	Bonner, Wayne H.
LA-10036	2004	*A Phase I Cultural Resources Investigation for the Proposed Diamond Ridge Marketplace Project Area, Located in the City of Glendora, Los Angeles County, California*	McKenna, Jeanette A.
LA-11015	2008	*Record Search Results for the Proposed Bechtel Wireless Telecommunications Site LSANCA0615 (Glendora–Gladstone Park), Located at 600 East Gladstone Street, Glendora, California*	Wlodarski, Robert J.

Report No.	Year	Report Title	Author(s)
LA-11057*	2009	*Cultural Resource Records Search and Site Survey—Clearwire Site CA-LOS6346C, South Hills Park, 1028 South Glendora Avenue, Glendora, Los Angeles County, California 91740*	Loftus, Shannon L.
LA-12525	2003	*NHPA Section 106 Review: Metro Gold Line Phase II Extension Project*	Poka, Ervin
LA-12972	2015	*Cultural Resource Assessment Class III Inventory, Verizon Wireless Services, Swain Facility, City of Glendora, County of Los Angeles, California*	Fulton, Phil, and Casey Tibbet
* Within Project Boundary.			

Additional Research

In addition to the records search at the SCCIC, DUKE CRM conducted a review of online historical aerial photographs via the University of California, Santa Barbara FrameFinder database (framefinder.com, accessed August 29, 2024) and Historic Aerials (historicaerials.com, accessed August 29, 2024), as well as historical topographic maps via USGS Topo Maps database (https://www.usgs.gov/the-national-map-data-delivery/topographic-map-access-points, accessed August 29, 2024). The earliest topographic map available (1887 Pomona, California, USGS 15-minute quadrangle) shows development around but not within the Project area. Aerial photographs from 1936, as well as 1939 Glendora, California, 7.5-minute topographic maps, show Highway 66 to the north of the Project, train tracks that border the Project to the north and east, and the Big Dalton Wash bordering the northwestern portion of the Project. By 1954, the Boulder Dam–Los Angeles 287.5-kV Transmission Line (P-19-188983) had been constructed. The surrounding area remained primarily agricultural until 1964, when aerials show an increase of development surrounding the Project as well as the water tank in the southwestern portion of the Project area. The region continued to develop and grow with the construction of Interstate 210 by 1972. By 1978, the Project area was as it is now, with the water tank and concrete lot in the southwestern portion of the area and visible trails by 1978 (data from historicaerials.com, accessed August 29, 2024).

Native American Consultation

An inquiry was submitted to the NAHC on July 18, 2024, to ascertain the presence of known sacred sites, Native American cultural resources, and/or human remains, as part of informal scoping within the boundaries of the Project. On August 7, 2024, the NAHC indicated that their review of the SLF had been positive for Native American cultural resources within or adjacent to the Project (Appendix B). The NAHC recommended contact with 16 individuals from nine (9) Native American groups, as listed below:

- Erica Schnek, Chairperson, Cahuilla Band of Indians;
- BobbyRay Esparza, Cultural Director, Cahuilla Band of Indians;
- Anthony Madrigal, Tribal Historic Preservation Officer, Cahuilla Band of Indians;
- Andrew Salas, Chairperson, Gabrieleño Band of Mission Indians–Kizh Nation;
- Christina Swindall Martinez, Secretary, Gabrieleño Band of Mission Indians–Kizh Nation;
- Anthony Morales, Chairperson, Gabrieleño/Tongva San Gabriel Band of Mission Indians;
- Sandonne Goad, Chairperson, Gabrielino, Gabrielino/Tongva Nation;
- Christina Conley, Cultural Resource Administrator, Gabrielino, Gabrielino Tongva Indians of California Tribal Council;
- Robert Dorame, Chairperson, Gabrielino, Gabrielino Tongva Indians of California Tribal Council;
- Charles Alvarez, Chairperson, Gabrielino, Gabrielino-Tongva Tribe;
- Sam Dunlap, Cultural Resource Director, Gabrielino, Gabrielino-Tongva Tribe;
- Alexandra McCleary, Senior Manager of Cultural Resources Management, San Manual Band of Mission Indians;
- Vanessa Minott, Tribal Administrator, Santa Rosa Band of Cahuilla Indians;

- Steven Estrada, Tribal Chairman, Santa Rosa Band of Cahuilla Indians;
- Jessica Valdez, Cultural Resource Specialist, Luiseño, Soboba Band of Luiseño Indians; and
- Joseph Ontiveros, Tribal Historic Preservation Officer, Luiseño, Soboba Band of Luiseño Indians.

All individuals and Tribes on the list were mailed letters and maps regarding the Project on August 19, 2024, requesting information relating to resources within the Project. Follow-up emails were sent on September 3, 2024, to those groups with email addresses listed. Additionally, phone calls were made on September 17, 2024, to further elicit responses. The following are the results of the Section 106 outreach efforts from the Tribes/individuals who responded:

- Mr. Esparza from the Cahuilla Band of Indians received the letter on 8/21/2024. DUKE CRM sent a follow-up email on 9/3/2024. Mr. Esparza responded to DUKE CRM via email on 9/3/2024, stating that the Tribe "would like to request all cultural materials associated with the project for review."
- Mr. Morales from the Gabrieleño/Tongva San Gabriel Band of Mission Indians received the letter on 8/21/2024. DUKE CRM sent a follow-up email on 9/3/2024. Ms. Conley from the Gabrielino Tongva Indians of California Tribal Council cc'd Adrian Morales in her response to DUKE CRM on 9/3/2024. Mr. Morales asked what the field survey would cover, after DUKE CRM responded and said to give a call for further details or questions. Mr. Morales said, "Great will do," but did not follow-up with DUKE CRM.
- Ms. Conley from the Gabrielino Tongva Indians of California Tribal Council received the letter on 8/23/2024. DUKE CRM sent a follow-up email on 9/3/2024. Ms. Conley responded to DUKE CRM via email with the following: "The APE has several known areas of tribal sensitivity along the pathway: Alosta Canyon South trailhead, Bonnie Cove Trails and Alosta Canyon Trail South Fork Upper (the nearest and most concerning is within 70 yards) and will need to be monitored for ground disturbances related to the project. We will divert [defer] involvement and final comments to the San Gabriel Band of Mission Indians copied here."
- Ms. McCleary from the San Manuel Band of Mission Indians received the letter on 8/22/2024. DUKE CRM received a response on 8/26/2024 from Eunice Ambriz, cultural resources technician, stating that the Project is outside their territory and the Tribe will not be requesting consultation.
- Gabrieleño Band of Mission Indians–Kizh Nation responded to the City via email, stating that the "Project is located within and adjacent to the Village of Asuksangna. Additionally, all Ranchos were placed within ancient village locations because of the available human workforce and the abundant natural resources located in that area. The Project also contains waterways that would have been used by the tribe. The tribe sent the City mitigation measures that they want put into place Furthermore, the tribe asks for further consultation."

See Appendix E for responses.

Field Survey

On September 12 and 13, 2024, Morgan Beigle, M.A., RPA, and Lauren Biltonen, B.A., archaeologists with DUKE CRM, conducted a pedestrian survey with roughly parallel transects spaced no greater than 15 m apart. Ground visibility varied from 0 to 100 percent; the current trails have 100 percent visibility, and the steep slopes adjacent to the trails have 0–15 percent visibility. Where the slopes were too steep and the vegetation too thick to walk through, a reconnaissance survey was conducted, and the bottoms of those slopes were surveyed when possible. The vegetation consisted primarily of native chaparral, sagebrush, poison oak, buckwheat, cacti, and large sycamore trees. The visible sediment ranged from a fine medium-brown sandy loam to a pale-yellow-brown silty sand. The trails and adjacent areas have been heavily disturbed from years of use as well as brush clearing. One (1) 1940s Pepsi bottle was found on the proposed intermediate trail, but because of its location in a drainage ditch and the lack of associated cultural materials, it

was deemed an isolated find. The bottle was not collected or recorded. No archaeological resources were observed during the field survey (see Appendix F for field survey photos).

IMPACTS ANALYSIS AND RECOMMENDATIONS

DUKE CRM assessed the proposed Project for the presence of and effect on cultural resources, in accordance with NHPA/Section 106. The SCCIC identified one (1) historic property running east–west through the park (P-19-188983) and no additional cultural resources within the park. The towers associated with P-19-188983 are within the park; however, the towers and transmission line are above and outside of the vertical APE by more than 100 feet. The vertical APE for this Project is at a maximum, 15 feet above ground. Additionally, the Project is a trail improvement project with limited added visual elements and no towers will be physically impacted by trail improvements or widening.

The NAHC responded with a positive result for Tribal resources within or adjacent to the Project area. Although the NAHC does not indicate what or where the tribal resource(s) are, research indicates that the nearest prehistoric resource is a lithic scatter located 2,460 feet east of the Project and the nearest known village site (i.e.: *Asuksangna)* is located approximately 2.5 miles west of the Project. Additionally, during Section 106 outreach, 16 individuals from nine (9) Native American groups were contacted regarding the Project. Of those groups, one (1), the Cahuilla Band of Indians, requested consultation, and one (1), the Gabrieleño Band of Mission Indians–Kizh Nation, stated that the Project is within and adjacent to a known village site (Asuksangna) and sent mitigation measures for the City to put in place. The field survey did not observe any cultural resources, and the changes to the park will take place within and directly adjacent to existing trails, therefore in surface-disturbed areas. Analysis indicates that the Project will have no effect on historic properties. The Project area has low sensitivity for undiscovered historical period cultural resources and moderate sensitivity for prehistoric cultural resources.

Cultural resources monitoring during Project implementation is not recommended. However, if cultural resources are encountered during Project development, no further disturbance shall occur until an archaeologist is retained and assesses the nature and significance of the resources. If human remains are encountered, *California State Health and Safety Code* Section 7050.5, states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to *Public Resources Code* Section 5097.98. The County Coroner must be notified of the encountered remains immediately. If the remains are determined to be prehistoric, the coroner will notify the NAHC, which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the remains. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. In addition, according to the *California Health and Safety Code*, a cemetery is place where six (6) or more human bodies are buried (Section 8100), and unauthorized disturbance of Native American cemeteries is a felony (Section 7052).

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APPENDIX A
Project Maps

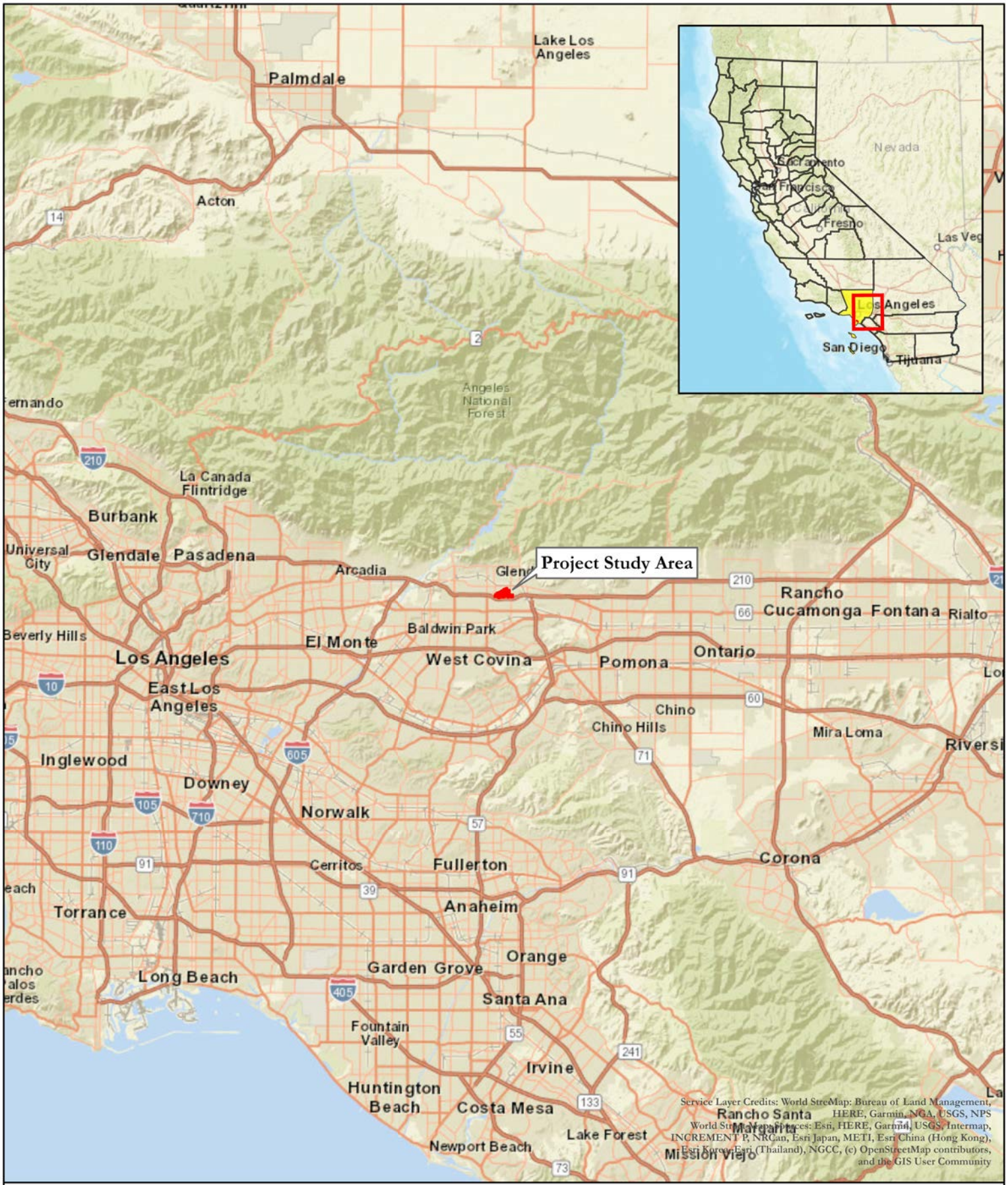


Figure 1. Project Vicinity
Glendora Family Bike Park Project (C-0556)
South Hills Wilderness Park
City of Glendora, California

Project Area

0 5 10 15 Miles

N

1:500,000

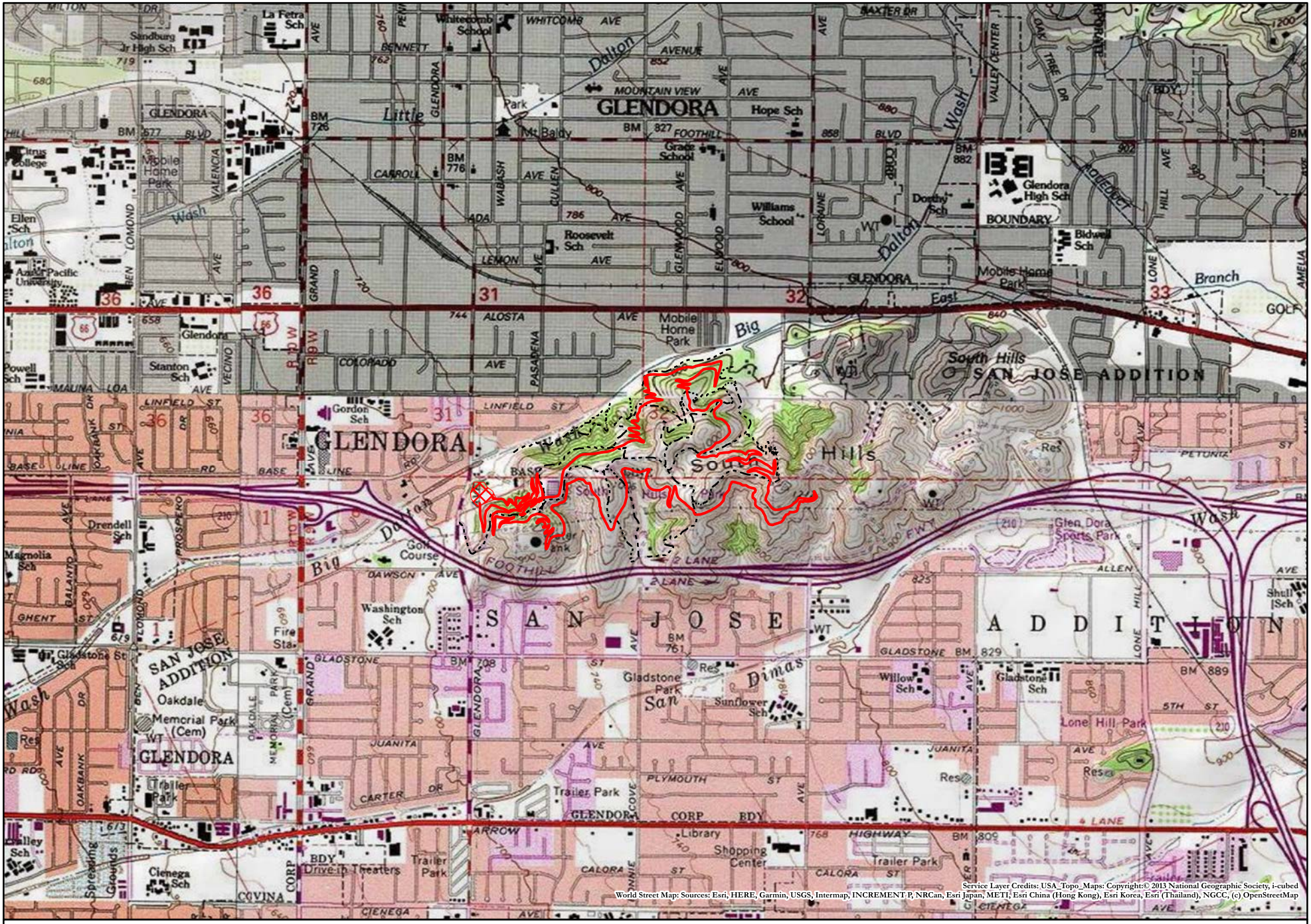


Figure 2. Project Location
Glendora Family Bike Park Project (C-0556)
South Hills Wilderness Park
City of Glendora, California

Trails
- Existing
- Proposed (APE)
- Core Park Enlargement Area (APE)

Glendora & San Dimas , Calif USGS 7.5-minute quadrangles
T1N/R9W/Sections 31 & 32
T1S/R9W/Sections 5 & 6
Date of Maps 1966/75

0 0.25 0.5 Miles
0 0.25 0.5 Kilometers
1:24,000
N



Figure 3. Project Aerial
Glendora Family Bike Park Project (C-0556)
South Hills Wilderness Park
City of Glendora, California

Trails
Existing
Proposed (APE)
Core Park Enlargement Area (APE)

0 500 1,000 Feet
1:10,000
N


Area of Potential Effects (APE) Overview
Glendora Family Bike Park Project (C-0556)
South Hills Wilderness Park
City of Glendora, California
Trails
Existing
Proposed (APE)
Core Park Enlargement Area (APE)
Glendora
Baldwin Park
0
500
1,000
1,500
Feet
1:6,000
N

APPENDIX B
Resumes

DUKE CRM
18 Technology Drive, #103
Irvine, CA 92618
949-356-6660
www.dukecrm.com

Morgan Beigle

Archaeologist

Professional Experience: 8 Years



Expertise

Cultural Resources Management
California Prehistory
Historical Archaeology
Prehistoric Archaeology

Education

California State University, Los Angeles,
M.A. Anthropology, 2019
Agnes Scott College, B.A., Anthropology/
Sociology, 2014

Professional Registrations

RPA, No. 18011

Professional Memberships

Society for California Archaeology
Society for American Archaeology

Certifications

HAZWOPER 40-Hr.
No. 220221520497

Summary of Qualifications

Ms. Beigle attended Agnes Scott College in Decatur, Georgia where she obtained her BA in 2014 in Anthropology/ Sociology and minored in Classics. During her time there, she studied abroad and traveled throughout Turkey where she visited many archaeological sites. Ms. Beigle attended California State University, Los Angeles where she received her MA in Anthropology, emphasis in California Archaeology in 2019. Her thesis focused on crab and sea urchin remains from a Middle Holocene site on San Nicolas Island, California (CA-SNI-40). She has six years of professional experience as a staff archaeologist where she became a Registered Professional Archaeologist and meets the Secretary of Interior Standards for Principal Investigator. During this time, Ms. Beigle has worked on several cultural resource management projects. This includes projects throughout California in compliance with Section 106 of the National Historic Preservation Act (NHPA) and California Environmental Quality Act (CEQA). She has monitored major infrastructure sites such as Metropolitan Transit Authority and utility projects. Ms. Beigle has monitored sites for private commercial and residential developments projects. While monitoring, she identifies historic and prehistoric resources and is cross trained in paleontology. Additionally, her responsibilities have included the preparation of technical reports (assessment, evaluation, and mitigation), cultural resources management plans, and project coordination.

Selected Project Experience

ICF Metro Division 20 Portal Widening Project, Los Angeles 2021-Ongoing. Role: Project Archaeologist. The project is located within the existing Division 20 railyard in Downtown Los Angeles. This project will expand the boundaries of the existing tracks and provide additional service tracks for the new Metro Lines. This work is being conducted in an area original to Los Angeles and therefore is in a high area of sensitivity. Ms.. Beigle now serves as a project coordinator. She works closely with archaeological monitors to determine construction activities and significance of finds. Ms.. Beigle also prepares the necessary finding forms for ICF and Metro, including DPR forms for isolates and features.

Kern River Transmission Line, Kern County 2021-Ongoing. Role: Project Archaeologist. DUKE CRM is under contract to provide cultural resources services for the 52-mile long repair of the Kern River Transmission Line. Thus far, Ms.. Beigle has reviewed the PEA, conducted a site visit, and began preliminary Native American outreach. Upon receiving the technical studies, Ms.. Beigle will review the reports followed by the draft EIR.

Erickson Farms Solar Project, Madera County, 2023. Role: Archaeologist/Project Lead. The Solar Project was located in four (4) different locations. The purpose of this study was to provide the necessary information and analysis to the USDA as the NEPA and the NHPA/Section 106 lead agency to determine whether the proposed Project might cause effects to historic properties that may exist in or adjacent to the Project APE. As part of the study, DUKE CRM conducted a records search, field survey of each location, a combined technical report, and four (4) SHPO and THPO letters to be submitted the respective offices.

I-5 North Enhancement Project, Valencia, 2022-Ongoing. Role: Archaeologist. DUKE CRM is under contract to conduct paleontological monitoring. Monitoring is being conducted along 8-miles of the I-5 freeway in three different types of sediment. During monitoring, DUKE CRM observed a bivalve fossil. The fossil was removed and construction activities continued without delay.

SR-73 Catalina View Improvements, 2022-Ongoing. Role: Principal Investigator. DUKE CRM is under contract to provide cultural and paleontological resources services for the Caltrans District 12 Project, SR-73 Catalina View Improvement Project. This project consists of using the existing median to provide one additional lane through the Catalina View Mainline Toll Point (resulting in four mainline lanes and one truck climbing lane) and making operational improvements on SR 73 leading up to the mainline toll point in each direction. DUKE CRM will prepared a Caltrans format Supplemental Project Area Limits (PAL) map. DUKE CRM will also conduct a record search at the South Central Coastal Information Center (SCCIC), the Natural History Museum of Los Angeles, and make an inquiry at the Native American Heritage Commission to ascertain the knowledge of known historic, prehistoric, and paleontological resources within the project. Following the completion of the survey, a Caltrans format Archaeological Survey Report (ASR) and a Caltrans format Supplemental Paleontological Identification/Evaluation Report (PIR/PER).

Vila Borba Project, Chino Hills, 2021-Present. Role: Field Coordinator. DUKE CRM provided construction monitoring for archaeology and paleontology. In 2013, DUKE CRM conducted a Phase II test excavation of archaeological sites CA-SBR-5285 and CA-SBR-7972/H for CalAtlantic (now Lennar). Between 2016-18 DUKE CRM conducted data recovery archaeological work at a site discovered during construction monitoring. This work includes research, a research design/work plan, excavation, lab analysis, Native American consultation, archaeological and paleontological and preparing detailed technical reports. The reports will be reviewed by the City, ACOE, and SHPO.

Pine Avenue Widening, Chino, San Bernardino County, 2022-Ongoing. Role: Archaeologist. DUKE CRM is currently under contract to provide cultural and paleontological resources services for this ¼ mile long road widening. DUKE CRM will conduct cultural/paleontological records searches, a field survey, prepare a cultural/paleontological report, conduct AB-52/NHPA Native American consultation support, and an historical evaluation of the property southwest of the intersection of Pine and Johnson Avenues. Ms.. Beigle is the Chief Filed Crew Monitor/Archaeologist on this project and will also participate as a research assistant.

219 - 221 17th Street Apartments, Seal Beach, 2021-Ongoing. Role: Archaeologist. DUKE CRM is under contract to provide archaeological resources services for this project. Ms.. Beigle prepared the Cultural Resource and Treatment Monitoring Plan (CRTMP) for a proposed apartment building located on 17th Street in accordance with the California Coastal Commission (CCC) guidelines and mitigation requirements. A clear and detailed statement of treatment protocols for archaeological, paleontological, and Native American resources were provided including Native American Consultation; Native American, archaeological, and paleontological monitoring, pre-grade meeting, communication protocols, and the treatment of any discovered artifacts, fossils, human remains, or sacred items. Following the approval of the CRMPT by the CCC, DUKE CRM will conduct archaeological monitoring where Ms.. Beigle will conduct pre-construction awareness training and oversaw the monitoring activities.

Thatcher Yard Housing, Marina del Rey, 2022-Ongoing. Role: Archaeologist. DUKE CRM is under contract to provide archaeological services for a residential housing development located in Marina Del Rey. The project is located on a historic dump site. DUKE CRM archaeologists have documented the

refuse deposit and collected several historic resources. Additionally, the project is located near several known Native American burials and, as a result, field monitors work closely with the Native American tribal monitors. Ms.. Beigle coordinates with Native American monitors during ground disturbing activities as well as monitors these activities. When excavation is complete, Ms.. Beigle will prepare a report summarizing the historic finds and monitoring.

249 Seal Beach Boulevard Apartments, Seal Beach, 2021. Role: Archaeologist. DUKE CRM to provide archaeological resources services for a proposed 4-unit apartment building located on Seal Beach Boulevard. In accordance with the California Coastal Commission (CCC) guidelines and mitigation requirements, Ms.. Beigle prepared a Cultural Resource and Treatment Monitoring Plan (CRTMP). A clear and detailed statement of treatment protocols for archaeological, paleontological, and Native American resources were provided including Native American Consultation; Native American, archaeological, and paleontological monitoring, pre-grade meeting, communication protocols, and the treatment of any discovered artifacts, fossils, human remains, sacred items, etc.

I-605/ Valley Blvd Interchange Improvements, City of Industry, 2019-Ongoing. Role: Archaeologist. DUKE CRM conducted a records search at the SCCIC for records concerning known archaeological and historic resources and prior cultural resource studies in Los Angeles County. Further, DUKE CRM contacted the Native American Heritage Commission (NAHC) to perform a Sacred Lands file search and list of Native American groups to contact regarding this project, as well as reviewing historic aerial maps, Sanborn maps, and historic topographic maps of the area. On behalf of Caltrans, DUKE CRM conducted the coordination aspect of the AB-52 and Section 106. DUKE CRM conducted a pedestrian survey of the project to identify any cultural resources within, or adjacent, to the project, characterized the setting, and field-checked any previously recorded archaeological resources identified during the records search. DUKE CRM prepared a Caltrans formatted APE Map generated from digital ArcGIS layers. Upon completion of these tasks, DUKE CRM prepared a Caltrans format ASR. It included impacts statement and recommendations for further work. Currently, DUKE CRM is conducting archaeological monitoring for ground disturbing activities. Ms.. Beigle serves as the project archaeologist which includes coordination with LA Metro and the Native American tribe as well as conduct archaeological monitoring.

Leal Master Plan, Eastvale, 2021-Present. Role: Archaeologist/Field Director. DUKE CRM is under contract to provide cultural resources services for a 156-acre development project. Ms.. Beigle conducted a records search and field survey. Additionally, during the field survey the three historical buildings located on the property were documented and assessed for eligibility under the California Register of Historical Resources (CRHR). The buildings were found to be ineligible and a technical report was prepared outlining these results. Currently, DUKE CRM is conducting paleontological monitoring during ground disturbing activities. Ms.. Beigle conducted a pre-construction awareness training and she oversees the monitoring for this project. Following the completion of monitoring activities, Ms.. Beigle will prepare a report to the city and the client.

Berth 191-194, Port of Los Angeles, Los Angeles, 2022. Role: Project Archaeologist. DUKE CRM is under contract to provide cultural and paleontological services. Thus far, DUKE CRM has conducted AB-52 consultation assistance, conducted a paleontological record search with the Natural History Museum, Los Angeles County, and requested a record search from the South Central Coast Information Center (SCCIC). Once the record search from the SCCIC has been received, a field survey will be conducted and a report will be provided to the client and the Los Angeles Harbor Department.

Rolling Hills, Vegetation Management, Rolling Hills, 2021-2022. Role: Project Archaeologist. DUKE CRM was under contract, to provide cultural resources services for the Vegetation Mitigation Management Project. The Project is approximately 106 acres in size. The purpose of this study is to provide the necessary information and analysis to the City of Rolling Hills as the lead agency for California Environmental Quality Act (CEQA) and to the Federal Emergency Management Agency (FEMA) as the National Environmental Quality Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA/Section 106) lead agency to determine whether the proposed Project would cause impacts to historical or archaeological resources that may exist in or adjacent to the Project area. Ms.. Beigle

conducted a field survey and a record search inquiry with the SCCIC. Upon the negative findings of the field survey, she prepared and submitted a CEQA/NEPA report to the client.

Ventana Planning Area 1A, Fontana, 2021-2022. Role: Archaeologist. DUKE CRM was under contract to provide cultural and paleontological services for the development project. DUKE CRM conducted a records search and prepared an Archaeological Resources Monitoring Plan. Once ground disturbance activities began, Ms.. Beigle conducted a pre-grade meeting/awareness training oversaw archaeological/paleontological monitoring. Once monitoring was completed, Ms.. Beigle prepared and submitted the monitoring letter report to the client.

The Cove, Laguna Niguel, 2021. Role: Archaeologist. DUKE CRM has prepared a cultural resources assessment for improvements to the Cove at El Niguel Residential Project. Ms.. Beigle initiated Native American consultation under AB 52 on behalf of the client.

19-Acre Joshua Tree, Joshua Tree, 2021. Role: Project Archaeologist. DUKE CRM was under contract to provide cultural resources services for a 19-acre development project. Ms.. Beigle conducted a records search and field survey. Following the completion of the field survey, she prepared a letter report stating negative findings during the field survey and submitted to the client.

Sewer Siphon, Hesperia DWR, Hesperia, 2021. Role: Project Archaeologist. DUKE CRM was under contract to provide cultural resources services for the 1.2-mile long sewer siphon project. Ms.. Beigle conducted a records search and field survey. Following the completion of the field survey, she prepared a letter report stating negative findings during the field survey and submitted to the client.

15-Acre Adelanto, Adelanto, 2021. Role: Project Archaeologist. DUKE CRM was under contract to provide cultural and paleontological services for a 15-acre development project. Ms.. Beigle conducted a records search and field survey. Following the completion of the field survey, she prepared a letter report stating negative findings during the field survey and submitted to the client.

27.5-Acre Adelanto, Adelanto, 2021. Role: Project Archaeologist. DUKE CRM was under contract to provide cultural and paleontological services for a 27.5-acre development project. Ms.. Beigle conducted a records search and field survey. Following the completion of the field survey, she prepared a letter report stating negative findings during the field survey and submitted to the client.

Makayla 2 Mine Expansion Project, Olancha, CA, 2019-2021. Role: Archaeologist. DUKE CRM conducted a Class III cultural resources study on approximately 25 acres of undeveloped land located in an unincorporated area near Coso Junction, Inyo County, California. Work was conducted in compliance with CEQA and NHPA. The County of Inyo was the lead Agency for CEQA and the BLM was the NHPA lead agency (BLM permit no. CA-19-13). DUKE CRM conducted an archaeological/historical resources records search, performed supplemental historical and archaeological background research, Phase I, and Phase II testing. The results of the records search indicated that one historic archaeological site and four prehistoric archaeological sites were previous recorded within the boundaries of the APE and were updated in the current study. During Phase I of the Project, these five sites were documented in the pedestrian survey of the APE. None of the cultural resources were recommended potentially eligible for the CRHR/NRHP and were not considered potential historical resources for the purposes of CEQA nor historic properties for the purposes of the NHPA. Following these results, BLM required a degree of subsurface testing. Ms.. Beigle aided in the Phase II testing, in three of the five located sites (two had since been destroyed). During excavation, 121 pieces of obsidian (debitage and cores) were collected. Following the testing of selected pieces, DUKE CRM submitted a National Register Evaluation Report to BLM.

LA-01 PM 46.90 to PM 62.86 Pavement Rehabilitation, Malibu, 2018-Present. Role: Co-Principal Investigator. LA-01 PCH Pavement Rehabilitation is also located in a high sensitivity area for prehistoric archaeology. Despite nearly a century of development and modern occupation along PCH/SR-1, in some instances, the highway has capped and protected buried archaeological sites. Due to the high sensitivity of the area, DUKE CRM prepared an ASR and HPSR for this project, in compliance with Caltrans,

CEQA, NEPA, and Section 106. Ms.. Beigle conducted a records search, field survey, and Native American coordination. Following the approval of the XPI Proposal, DUKE CRM will conduct test trenching and a subsequent XPI report.

Pacific Coast Highway Signal Systems Improvements, Malibu, 2017-Ongoing. Role: Co-Principal Investigator. DUKE CRM was contracted by Caltrans to aid with archaeological work for this project. The City of Malibu (City), in cooperation with the California Department of Transportation (Caltrans), is proposing to construct a series of improvements to the traffic signals along PCH and Stuart Ranch Road/Webb Way. Ms.. Beigle conducted archaeological monitoring for ADL sampling and assisted with writing ADL sampling report.

California Street Northbound Off-Ramp/Highway 101, Ventura, 2014-2022. Role: Archaeologist/Field Crew. DUKE CRM provided cultural resources support for this project. Ms.. Beigle serves as an archaeologist for this project. She aided in the Extended Phase I Survey (XPI) for this project. The project is located in the downtown Ventura area. Prior to the construction of Highway 101 this area consisted of a neighborhood dating to the 1800s-1890s. The San Miguel Chapel site is located immediately adjacent to the project boundaries.

San Marcos Creek Project, San Marcos 2021. Role: Archaeological Monitor. Ms.. Beigle conducted archaeological monitoring for construction activities. She identified historic and prehistoric resources and worked closely with Native American Tribal monitors while in the field. Ms.. Beigle prepared daily monitoring, photo, and lithology logs.

Metro Purple Line Section 3, West Los Angeles 2019-2021. Role: Archaeologist. LA Metro is conducting an expansion of the Purple Line. A portion of the line is currently on the West Los Angeles Veterans Hospital Campus, making it a high sensitivity area for historical resources. Ms.. Beigle conducted archaeological monitoring for construction activities and identified historic and prehistoric resources. She also prepared daily monitoring, photo, and lithology logs as well as work closely with Native American Tribal monitors.

I-405 Project, Orange County 2020-Ongoing. Role: Archaeologist. This project takes place on I-405 in the Orange County portion and expands the highway to include FastTrack lanes. Ms.. Beigle conducted archaeological monitoring for construction activities. She identified historic and prehistoric resources. She also prepared daily monitoring, photo, and lithology logs. Ms.. Beigle also worked closely with Native American Tribal monitors.

ICF Metro Regional Connector, Los Angeles 2017-2021. Role: Archaeological/Paleontological Monitor. The project is located in Downtown Los Angeles. This project creates a new Metro line stretching from Little Tokyo to Staples Center. This work is being conducted in an area original to Los Angeles and therefore is in a high area of sensitivity. Ms.. Beigle served as an archaeological/paleontological monitor throughout the line. She also prepared daily monitoring, photo, and lithology logs. Ms.. Beigle also worked closely with Native American Tribal monitors.

Southern California Edison, Los Angeles and Ventura Counties, 2019-2021. Role: Archaeological Monitor. Ms. Beigle conducted archaeological monitoring for construction activities/ pole replacements. In the field she identified historic and prehistoric resources and prepared daily monitoring, photo, and lithology logs. Ms.. Beigle prepared letter and formal reports for survey and monitoring work.

Moorefield French Valley, Murrieta 2020. Role: Archaeological Monitor. Ms. Beigle conducted archaeological monitoring for construction activities/ pole replacements. In the field she identified historic and prehistoric resources and prepared daily monitoring, photo, and lithology logs. Additionally, she worked closely with Native American Tribal monitors.

Papers/Publications

Bender, Morgan 2019 *An Archaeological Analysis of Crab and Sea Urchin Remains at CA-SNI-40, San Nicolas Island, California.* Unpublished Master's thesis presented to California State University, Los Angeles, May.

Bender, Morgan 2017 *Collection of crustaceans and echinoderms during the Middle Holocene on the West End of San Nicolas Island, California.* Paper presented at the Society for American Archaeology, Vancouver, Canada, March.

Bender, Morgan 2017 *Crabs and Sea Urchin from the Middle Holocene on the West End of San Nicolas Island, California.* Paper presented at the Society for California Archaeology, Yosemite, California, March.

Bender, Morgan 2016 *Zooarchaeological Analysis of Utilitarian and Ceremonial Deposits at the Tule Creek site (CA-SNI-25), San Nicolas Island, California*. Paper presented at the Society for California Archaeology, Ontario, California, March.

Bender, Morgan 2014 *Egalitarian Marriage of Burmese Migrants*. Paper presented at the Southwestern Undergraduate Sociological Symposium (SEUSS), Atlanta, Georgia, February.

Bender, Morgan 2014 *Egalitarian Marriage of Burmese Migrants*. Paper presented at the Agnes Scott College Spring Annual Research Conference, Decatur, Georgia, April.

Bender, Morgan 2011 *Assimilation of Afghan Refugees*. Paper presented at the Southwestern Undergraduate Sociological Symposium (SEUSS), Atlanta, Georgia, February.

DUKE CRM

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949-356-6660
www.dukecrm.com

Curt Duke

President/Principal Archaeologist



Expertise

Cultural Resources Management
California Prehistory
Section 106 Compliance
CEQA Compliance
Native American Consultation

Education

CSU, Fullerton, M.A., Anth, 2006
SDSU, Grad Studies, Anth, 1996/97
UC Santa Cruz, B.A., Anth, 1994

Professional Registrations

RPA, No. 15969
County of Riverside (No. 151)
County of Orange

Professional Memberships

Society for California Archaeology
Society for American Archaeology
Pacific Coast Archaeological Society
Assoc. of Environmental Professionals
Building Industry Association

Summary of Qualifications

Mr. Duke's career in cultural resources management spans 3 decades. He meets the Secretary of Interior's Professional Qualifications Standards for Prehistoric and Historical Archaeology. He also meets Caltrans PQS equivalent as a Principal Investigator for prehistoric archaeology. He received his B.A. in Anthropology in 1994 from the University of California, Santa Cruz, and his M.A. in Anthropology in 2006 from California State University, Fullerton. His M.A. thesis focused on prehistoric mortuary analysis in southern California. Curt is well-versed in the application of Section 106 of the NHPA, NEPA, and CEQA on a variety of projects across many market sectors. He has conducted/managed more than 3,500 cultural/ paleontological resource projects for various clients primarily in California, as well as Nevada and Arizona. Mr. Duke has completed projects in all phases of archaeology: Ph. I Survey, XPI Survey, Buried Sites Testing, Archaeological Sensitivity Assessments, Ph. II Testing, Ph. III Data Recovery, Ph. IV Monitoring, and Native American consultation assistance. His project responsibilities primarily include overseeing archaeological, historical, and paleontological studies, ensuring that the quality of analysis and reporting meets or exceeds appropriate local, state, and federal standards. His positive, solution-oriented attitude makes him more than just an archaeologist, he brings value to any team in the way he seeks for positive outcomes.

Prior to starting DUKE CRM, Mr. Duke was a Principal Archaeologist at LSA Associates, Inc. He managed the Cultural/Paleontological group in LSA's Riverside office.

Selected Project Experience

Palo Alto Fiber Optic Upgrades Project, 2023-24. DUKE CRM conducted cultural and paleontological research and an impacts analysis for this City-wide backbone upgrade. Work conducted included a records search at the NWIC and UC, Museum of Paleontology. Although there were many cultural/paleontological resources within and near the Project boundaries, only a few had the potential for impacts. Role: Project Manager/Principal Archaeologist.

Reid/Baldwin Adobe, LA Arboretum, Arcadia, 2019-22. DUKE CRM conducted archaeological monitoring at the Reid /Baldwin Adobe. In summer 2019 we conducted an archaeological excavation to explore for remnant buried architectural features. The Adobe was built in 1841 by Hugo Reid and in 1875 it was sold to Elias J. "Lucky" Baldwin. Role: Project Manager/Principal Archaeologist.

Selected Project Experience (cont.)

Skyridge Residential, Mission Viejo, 2011-present. Role: Project Manager/Principal Archaeologist. DUKE CRM conducted a Phase II and Phase III excavation of prehistoric archaeological site CA-ORA-507. This work included research, preparation of a research design/work plan, excavation, lab analysis, Native American consultation, and preparing detailed technical reports. This involved managing a large team of archaeologist and geologists. The report was reviewed by the City, ACOE, and SHPO. Detailed archaeological and paleontological monitoring reports are being drafted and accession of a fossil whale to the San Diego Museum of Natural History is in process.

Tracy Hills Specific Plan, Tracy, 2015. Role: Project Manager/Principal Archaeologist. DUKE CRM prepared a cultural and paleontological resource assessment report for this 2,700-acre project. Work completed includes a records search, archival research, field survey, resource evaluation, and Native American consultation. DUKE CRM archaeologists discovered nine cultural resources. All but one of the cultural resources were not considered historical resources for the purposes of CEQA. The one historical resource is the California Aqueduct. DUKE CRM recommended that a monitor be present during grading of one of the sites, due to the potential for buried archaeological resources. We recommended that paleontological monitoring should be conducted during deep excavation due to a high potential for fossils below approximately five feet.

James A. Musick Facility, Irvine, 2020-22. DUKE CRM was under contract to provide cultural and paleontological services for the improvements to approximately 45 acres of the property. The Project has completed the California Environmental Quality Act (CEQA) with the Orange County Sheriff's Department (OCSD) as the lead CEQA agency. DUKE CRM prepared an Archaeological/Paleontological Monitoring Plan and conducted a field survey and archaeological/paleontological monitoring. During monitoring activities, eleven features containing Fire Affected Rock, charcoal and ash residue, with a portion containing animal bone and small amounts of flake and ground stone was observed. Upon discovery, the County of Orange archaeologist was contacted in order to discuss treatment of these resources. At the direction of the County, DUKE CRM conducted data recovery of these resources with the overall goal of building upon previous research and to maximize the data potential of prehistoric sites C-0333-01 and C-0333-02 and their associated features in order to further our knowledge of the prehistoric inhabitants of the Project area and to determine if the sites meet the eligibility requirements for inclusion in the California Register of Historical Resources (CRHR) through implementation of a research design. Five separate analyses were conducted: features, radiocarbon assay, flaked stone, groundstone and faunal. These analyses were conducted independently and in combination in an effort to address research questions regarding site chronology, structure and function, settlement patterns, trade and exchange, and subsistence.

Mokelumne Aqueducts Delta Tunnel, San Joaquin and Contra Costa Counties, 2020-22. DUKE CRM worked with East Bay Municipal Utility District's consultant team on this project. DUKE CRM prepared an archaeological and paleontological sensitivity analysis based on the results of records searches conducted at the NWIC and CCIC, geologic, soils, and hydrologic maps, as well as other pertinent data. Role: Project Manager/Principal Archaeologist.

Spruce Goose Hangar, Google, Playa Vista, 2016. Role: Project Manager/Principal Archaeologist. DUKE CRM was under contract to provide Archaeological Consulting & 3rd Party Review for archaeological investigations inside the Spruce Goose Hangar.

Bay Bridge Pump Station and Force Mains Rehabilitation, Newport Beach, 2017. DUKE CRM provided cultural/paleontological resource services. Tasks included background research, a field survey, impacts analysis, and a letter report Role: Project Manager/Principal Archaeologist.

Asti Permanent Bridge Construction Project, Sonoma County, 2023. Role: Project Manager/Principal Archaeologist. DUKE CRM provided archaeological and paleontological resources services for this Project. Specifically, DUKE CRM conducted a records search, field survey, and assisted with Native American consultation. DUKE CRM prepared a technical report documenting archaeo/paleo resources efforts under CEQA/NHPA.

Evanston Inn, Pasadena, 2014-16. Role: Project Manager/Principal Archaeologist. DUKE CRM conducted archaeological monitoring for this project. The Evanston Inn is a historic hotel that is being converted to a residential project. DUKE CRM conducted a records search at the SCCIC. During ground disturbance our archaeologists monitored construction. We discovered approximately 30 historic items; however, this material was not intact. DUKE CRM prepared an inventory that we attached to our report. The material was determined to not be significant as it could not answer any import research questions. There were no delays to the overall construction schedule.

Livermore Community Solar Farm, LLC, Livermore, 2016. DUKE CRM was contracted to perform a cultural resources assessment and historic evaluation in compliance with CEQA for the 72-acre project. DUKE CRM conducted a records search, Native American consultation and a archaeological field survey of the project. DUKE CRM documented and evaluated an historic ranch complex for eligibility for the California Register of Historic Resources. Role: Project Manager/Principal Archaeologist.

San Marcos General Plan Update, 2019 – 2020. DUKE CRM conducted a cultural/paleontological resources assessment for the San Marcos General Plan update. The assessment included a record search, archival research, a reconnaissance survey for both cultural and paleontological resources, mitigation recommendations, and Native American consultation support for the City's AB-52 and SB-18 requirements. This work was completed in compliance with CEQA. Role: Project Manager/Principal Archaeologist.

LA-126 Chiquito Canyon, Castaic, 2020-Present. DUKE CRM prepared an ASR and Extended Phase I Survey (XPI) for this project. in compliance with Caltrans, CEQA, NEPA, and Section 106. DUKE CRM conducted a records search, field survey, and test trenching. Following completion of test trenching, a report was prepared.

Makayla 2 Mine Expansion Project, Olancha, CA, 2019-2024. DUKE CRM conducted a Class III cultural resources study on approximately 25 acres of undeveloped land located in an unincorporated area near Coso Junction, Inyo County, California. Work was conducted in compliance with CEQA and NHPA. The County of Inyo was the lead Agency for CEQA and the BLM was the NHPA lead agency (BLM permit no. CA-19-13). DUKE CRM conducted an archaeological/historical resources records search, performed supplemental historical and archaeological background research, Phase I, and Phase II testing. The results of the records search indicated that one historic archaeological site and four prehistoric archaeological sites were previous recorded within the boundaries of the APE and were updated in the current study. During Phase I of the Project, these five sites were documented in the pedestrian survey of the APE. None of the cultural resources were recommended potentially eligible for the CRHR/NRHP and were not considered potential historical resources for the purposes of CEQA nor historic properties for the purposes of the NHPA. Following these results, BLM required a degree of subsurface testing. DUKE CRM proceeded to conduct Phase II testing, in three of the five located sites (two had since been destroyed). During excavation, 121 pieces of obsidian

(debitage and cores) were collected. Following the testing of selected pieces, DUKE CRM submitted a National Register Evaluation Report to BLM. Role: Project Manager/Principal Archaeologist.

Deane Dana Friendship Park, Rancho Palos Verdes, 2019. DUKE CRM is conducting archaeological monitoring for a habitat restoration and irrigation project in the park. The work is being conducted immediately outside the boundary of prehistoric site CA-LAN-850. The site is considered significant and was the subject of an archaeological excavation in the 1990s. To date there have been no delays caused by DUKE CRM. The client for this project is the Los Angeles County Parks and Recreation Department. Role: Project Manager/Principal Archaeologist.

Caltrans Middle Mile Broadband Network Project, District 7, County of Ventura, CA, 2022-23. DUKE CRM was under contract to conduct a combination pedestrian and windshield cultural resources Phase I field survey of seven (7) state routes in Ventura County (Routes 23, 33, 34, 101, 118, 126 and 150) encompassing approximately 123 miles. The field survey was followed by XPI excavations at 27 locations along the routes deemed culturally sensitive as a result of background research and survey. The results of research, field survey, and XPI excavations were documented in a combined ASR/XPI report. Mr. Duke's role was the Task Order Manager and Co-Principal Investigator, providing oversight for all archaeological work efforts and reviewing the technical reports prepared.

Saint Margaret's Episcopal Church, San Juan Capistrano, 2019. DUKE CRM conducted archaeological monitoring for construction of several projects on this property. Several years ago, during a separate project a Native American burial was discovered on the campus. To date there have been no archaeological discoveries or delays caused by DUKE CRM. DUKE CRM coordinated with Native American monitors. Role: Project Manager/Principal Archaeologist.

Veteran Affairs Medical Clinic, Cotati, 2019. DUKE CRM conducted a records search, archival research, and a field survey for this project. The results were provided in a cultural resources assessment report. There were no cultural resources within the project. It was determined that the project did not have a high sensitivity for archaeology. Mr. Duke conducted the research, field survey and prepared the report.

Bedford Canyon Marketplace, Corona, 2019. DUKE CRM conducted a records search, archival research, and a field survey for this project. The results were provided in a cultural resources/paleontological assessment report. There were no cultural resources within the project.

Caltrans PCH Pavement Rehabilitation, District 7, Malibu, 2021-23. DUKE CRM prepared an ASR, APE map, XPI proposal and XPI report for this project. As part of this project, DUKE CRM staff conducted the records search, field survey, coordinated the Native American consultation under NHPA and CEQA and undertook XPI excavations.

Murrieta Canyon Academy, Murrieta, 2019. DUKE CRM conducted a records search, archival research, and a field survey for this project. We also assisted in AB52 consultation. The results were provided in a cultural resources/paleontological assessment report. There were no cultural resources within the project.

I-605/Valley Blvd. Improvements Project, City of Industry, 2019. Role: Project Manager/Principal Archaeologist. DUKE CRM conducted a records search, Native American consultation, and a field survey. DUKE CRM prepared a Caltrans-format ASR and APE Map.

Vila Borba, Chino Hills, 2013-present. Role: Project Manager/Principal Archaeologist. DUKE CRM conducted a Phase II excavation of archaeological sites CA-SBR-5285 and SBR-7972/H, as well as Phase III data recovery at site 36-031828, a prehistoric special-use campsite. This work included research, preparation of

a research design/work plan, excavation, lab analysis, Native American consultation, and preparing a detailed technical report. The reports were reviewed by the City, ACOE, and SHPO. DUKE CRM also provided archaeological and paleontological monitoring working with Native Americans, the City and the applicant.

Division 20 Portal Widening Project, LA Metro, Los Angeles, 2021-Present. The project is located within the existing Division 20 railyard in Downtown Los Angeles. This project will expand the boundaries of the existing tracks and provide additional service tracks for the new Metro Lines. This work is being conducted in an area original to the historic *Pueblo de Los Angeles* and therefore is in a high area of sensitivity.

SR57/SR60 Confluence at Grand Avenue Project, City of Industry, 2019-Present. DUKE CRM conducted a cultural resources revalidation assessment for Segment II, Phase IIA of the SR-57/SR-60 Confluence at Grand Avenue Project. DUKE CRM conducted a records search and field survey for the revised project APE and coordinated Native American consultation under AB 52 with the City of Industry as the lead agency.

SR-60/I-605 IC Project PEAR, City of Industry/Baldwin Park, 2014. DUKE CRM conducted archaeological and paleontological studies in support of this project. The work included records searches at the SCCIC and NHMLAC, contacting the NAHC and local Native Americans, and a reconnaissance of the project area. Our efforts were summarized in letter reports. The lead agencies in this effort were the Los Angeles County Metropolitan Transportation Authority (LA Metro) and Caltrans.

Shoemaker Bridge Replacement, Long Beach, 2016-19. Role: Project Manager/Principal Archaeologist. DUKE CRM conducted a records search, Native American consultation, and field survey. DUKE CRM prepared a Caltrans-format ASR, HPSR, PIR, FNAE, and APE Map documenting archaeo/paleo resources within the APE.

San Jacinto General Plan Update, San Jacinto, 2018-Present. Role: Project Manager/Principal Investigator. DUKE CRM is under contract to provide cultural/paleontological resource services including research, reconnaissance field survey, Native American consultation under AB-52 and SB-18, conduct a cultural landscape study and prepare a cultural/paleontological assessment report of its findings.

Tina-Pacific Residential Neighborhood Project, Stanton, 2018-Present. Role: Project Manager/Principal Archaeologist. DUKE CRM is under contract to provide cultural/paleontological resource services including a records search, historic evaluation of 40 properties, reconnaissance survey, Native American coordination under AB-52 and SB-18 and will prepare a combined cultural/paleontological report of its findings.

TTM 20022, Lots 1-6, San Bernardino County, 2018-Present. DUKE CRM is under contract to provide a cultural resource assessment for this 15-acre project near Mountain Home Creek Road in San Bernardino County in compliance with CEQA. This effort includes research, field survey, Native American consultation and preparation of a letter report.

Vantage Point Church Monitoring, Eastvale, 2018-Present. Role: Project Manager/Principal Archaeologist. DUKE CRM conducted a cultural and paleontological resource assessment report. Following project approval DUKE CRM conducted monitoring services for this project and preparation of a report of our findings at the conclusion of ground disturbance. DUKE CRM documented the discovery of a prehistoric artifact and coordinated its reburial. DUKE CRM coordinated with Native American monitors.

Murrieta Hospitality Commons, 2017-19. DUKE CRM prepared a PRMP and conducted archaeological/ paleontological monitoring during the construction of this project. There were no discoveries made and no

delays caused by DUKE CRM. DUKE CRM coordinated with Native American monitors. Role: Project Manager/Principal Archaeologist.

Veteran Affairs Medical Clinic, Santa Rosa, 2019. DUKE CRM conducted a records search, archival research, and a field survey for this project. The results were provided in a cultural resources assessment report. There were no cultural resources within the project. It was determined that the project did not have a high sensitivity for archaeology. Mr. Duke conducted the research, field survey and prepared the report.

Ocean Place Monitoring, Seal Beach, 2018-Present. DUKE CRM is contracted to provide archaeological monitoring, Native American monitoring and will prepare a compliance letter at the conclusion of monitoring efforts.

MVGC – Rancho Belago II Monitoring, Moreno Valley, 2018-Present. Role: Project Manager/Principal Archaeologist. DUKE CRM is contracted to provide archaeological/paleontological monitoring and develop a monitoring plan for this 190-acre golf course, reserve and apartments project in compliance with CEQA. The plan outlines the construction monitoring and subsequent tasks in the event archaeological resources are discovered.

Santa Claus Lane Class I Bike Path, Carpinteria, 2015-2017. DUKE CRM conducted a cultural resource records search and archaeological field survey and prepared a Caltrans ASR and APE Map. The project is located along US-101 and the Union Pacific Railroad in the Carpinteria Salt Marsh Reserve contains a critically important Southern California estuary. Mr. Duke was the Project Manager and Principal Investigator.

Vantage Point Church, Eastvale, 2016. Role: Project Manager/Principal Archaeologist. DUKE CRM was under contract to provide cultural/paleontological resource services for this 11-acre project to determine whether the proposed project would cause substantial adverse impacts to any historical, archaeological, or paleontological resources in or adjacent to the project area to comply with CEQA. This effort included records searches, field survey and Native American consultation to identify any cultural or paleontological resources. The records search indicated three previously records cultural resources within a 1-mile radius which was a lithic scatter of stone and glass tools and indicated a moderate sensitivity for cultural resources and a low sensitivity for historic resources. Therefore, DUKE CRM recommended archaeological monitoring during ground disturbance.

Jack Rabbit Trail – SCS2089, Beaumont, 2018. DUKE CRM was contracted to perform a cultural resource assessment for this H-frame communications tower, equipment cabinets and power infrastructure. This effort included research, field survey, Native American scoping and preparation of a report of our findings.

Route 66 Gas Station and Market Project, Helendale, 2017-18. DUKE CRM provided cultural/paleontological resource services for this 1.72-acre project. We evaluated the proposed project for impacts to cultural/paleontological resources under CEQA. After conducting a records search and field survey, we concluded the sensitivity for cultural/paleontological resources was low in surficial sediments; however, the sensitivity could increase at depth to high. Therefore, DUKE CRM recommended paleontological monitoring. Following consultation with local Native Americans the County of San Bernardino required buried sites testing which was conducted by DUKE CRM. The results of the buried sites testing were negative and the project planning proceeded.

TTM 20128, Apple Valley, 2018. DUKE CRM provided paleontological resource services for the Apple Valley TTM No. 20128 project (approximately 101 acres), located at the southeast corner of Sitting Bull Road and Deep Creek Road. The results of the assessment were negative; however, it indicated that the buried

sediments have a high sensitivity for fossils. Therefore, DUKE CRM recommended paleontological monitoring.

TTM 20022, Lots 1-6, San Bernardino County, 2018-19. DUKE CRM provided a cultural resource assessment for this 15-acre project near Mountain Home Creek Road in San Bernardino County in compliance with CEQA. This effort included research, field survey, Native American consultation, and preparation of a letter report.

Indus Light Industrial Building Project, Chino Hills, 2018. DUKE CRM provided paleontological, archaeological, and Native American monitoring services including preparation of a PRIMP.

Dolores Lake Park, Newberry Springs, 2017. DUKE CRM provided cultural resource services for a proposed redevelopment. Work completed included a records search at the SBAIC located at the San Bernardino County Museum. DUKE CRM prepared a letter of results, summarizing the research.

Redlands Railway District Project, 2019. DUKE CRM provided archaeological site monitoring for the excavation of test pits as well as conducting limited background research and prepare a letter of results. This project is located within and near the Redlands Chinatown and is considered highly sensitive for buried archaeological sites.

Rite-Aid, Phelan, 2016. DUKE CRM conducted archaeological monitoring services. No artifacts were discovered. No delays were caused by DUKE CRM. A letter report was completed and filed with the SCCIC and the owner. Project was completed per County of San Bernardino requirements.

Colton Bridges Retrofit Project, CA 2013-14. DUKE CRM provided cultural resources support for this local assistance project. DUKE CRM prepared an HPSR, HRER, and APE Map for two bridges and an APE Map for a third Bridge for which Caltrans prepared the HPSR. No cultural resources were determined significant within the APE. The railroad above the bridges and several of the adjacent parcels contained historic buildings. DUKE CRM worked with Caltrans staff to reduce the size of the APE so that these resources were not within the APE and therefore did not need to be evaluated. This was largely due to the limited nature of the project and its limited potential to impact these built-environment historic resources.

SBCTA (formerly SANBAG) Environmental On-Call, 2015-18. DUKE CRM is under contract to provide on-call cultural/paleontological resource services for the San Bernardino County Transit Authority (SBCTA). Mr. Duke was the Project Manager and Principal Archaeologist who managed and directed all work under this contract. This varied work has involved staff archaeologists, and related technical specialists from multiple offices. Many of the studies were conducted simultaneously, which necessitated careful project management and scheduling. The following Task Orders have been completed to date:

- **210/Pepper Ave, Rialto, 2017-2018** – Archaeological/Native American monitoring and reports.
- **I-10 University IC Improvements, Redlands, 2015-16**– 3rd party review of HRCR, ASR, & APE Map
- **I-15 PA-ED, San Bernardino-Riverside Counties, 2016** – 3rd party review of ASR, HPSR, PIR/PER, and APE Map
- **Metrolink Station Accessibly Project, San Bernardino County, 2015** – 3rd party review of HPSR, FNAE, and APE Map
- **SR-60 Central, City of Chino, 2017** – 3rd party review of HRCR, ASR, and APE Map

Central Avenue Pedestrian Improvements Project, County of Ventura, District 7, 2018. Role: Project Manager/Principal Archaeologist. DUKE CRM prepared a Caltrans-format Archaeological Survey Report and an Historic Property Survey Report under the Ventura County Transportation On-Call. This project included ADA accommodations, reconstruction, drainage improvements and pavement widening to improve the safety along Central Avenue for pedestrians. As a part of the Archaeological Survey Report, DUKE CRM conducted

a records search, field survey and Native American consultation which identified one archaeological resource and an historic shed from the Jones Ranch dating from the mid-20th century. Given the extensive ground disturbance within the APE from residential development and utilities along Central Avenue the likelihood that any archaeological resources would be impacted would be low.

Avenue S-8 & 40th Street E. Roundabout, Palmdale, 2018. Role: Project Manager/Principal Archaeologist. DUKE CRM is under contract to provide cultural/paleontological resource services in compliance with CEQA and Section 106 of the NHPA. All work was completed in compliance with the Caltrans SER, including: an HPSR, ASR, APE Map, and PIR/PER.

Pacific Coast Highway (PCH) Signal Systems Improvements, City of Malibu, County of Los Angeles, District 7, 2018. DUKE CRM provided archaeological/paleontological resource services for this project including a records search, Native American consultation, and a field survey. An Archaeological Survey Report was prepared to document identification efforts for archaeological resources in the PAL. The records search identified 54 archaeological resources within one mile of the project PAL and 294 archaeological reports for projected located within and adjacent to the PAL. All of these sites were buried or eroding from hillsides along PCH. A PIR/PER was also prepared and noted potentially fossiliferous deposits. DUKE CRM recommended a PMP following the Caltrans SER be prepared by a principal paleontologist including sensitivity pre-grade training, monitoring, field and laboratory methods and a required PMR upon completion of earthmoving activities. Role: Project Manager/Principal Archaeologist.

Sweeny Road, near Lompoc, Santa Barbara County, CA, 2018-2019. DUKE CRM provided archaeological and paleontological services for this 25-acre project. DUKE CRM conducted a records search, background research, Native American consultation and a field survey. Deliverables included a Combined Archaeo/Paleo Letter Report with associated maps and photographs. Role: Project Manager/Principal Archaeologist.

Entrada Project, Riverside, 2018. DUKE CRM was under contract to provide a cultural resource study including a records search, location map and preparation of a letter report of archaeological findings and recommendations. Role: Project Manager/Principal Archaeologist.

1st Street over Glendale Boulevard, Los Angeles, 2018. DUKE CRM was contracted to provide emergency site recordation and evaluation of an unanticipated discovery of a single historic resource discovered during project construction. Role: Project Manager/Principal Archaeologist.

Sierra Crest II, Fontana, 2018. DUKE CRM is under contract to provide a peer review, on-site mitigation monitoring and inspection of previously recorded cultural resources and paleontological monitoring for the project in compliance with CEQA with the City as lead agency. A letter report of its findings will be prepared and submitted to the client. Role: Project Manager/Principal Archaeologist.

6th Street Viaduct Mission & Myers Roundabout, Los Angeles, 2018-Present. Role Project Manager/Principal Archaeologist. Mr. Duke's team is under contract to provide cultural/paleontological services for the project. DUKE CRM conducted records searches and a field survey and will prepare a combined cultural/paleontological resources report for the project.

SBCTA 210/Pepper Ave & Highland Ave, Rialto, 2017-2018. The project is subject to Section 106 of the NHPA and CEQA. DUKE CRM provided archaeological/paleontological monitoring during ground distributing activities in compliance with mitigation measures and especially in relation to human remains and burials. One prehistoric isolate, a chert bifcial core fragment was discovered during monitoring. The core was found in fill materials during construction activities. A secondary, but no less important portion of this

monitoring activity was the reburial of human remains discovered during an unrelated project in 2007, but near this project area. The remains are surmised to have originated from the project area.

Laguna Canyon Road (SR-133), Laguna Beach, 2017. DUKE CRM is under contract to HDR, Inc. to provide paleontological resource services including a Paleontological Identification Report (PIR) in support of a PEAR. The PIR will estimate the scope, schedule and costs associated with completing paleontological studies associated with environmental compliance.

Diamond Valley Estates Specific Plan, Hemet, 2017-Present. Role: Project Manager/Principal Archaeologist. DUKE CRM provided cultural and paleontological resources services for the Diamond Valley Estates Specific Plan Project located south of Hemet, in Riverside County. The total project area is approximately 422 acres in size. DUKE CRM staff conducted research through the Eastern Information Center and the Western Science Center. In addition, DUKE CRM consulted with local Native American groups and conducted a field survey. Several potentially significant archaeological resources have been discovered. DUKE CRM is currently working with the developer, County staff, and Native American groups to assess the potential impacts and develop mitigation measures that will lessen the potential for impacts.

Union Street Two-Way Protected Bikeway, Pasadena, 2017-Present. Role: Project Manager/Principal Archaeologist. Mr. Duke's team is under contract to provide archaeological and paleontological services for the project. DUKE CRM conducted a records search, field survey, APE, ASR, PIE/PER and assisting the City with Native American consultation in compliance with CEQA & NEPA.

Pleasant Valley Road Two-Way Left Turn Lane, Camarillo, 2017. Role: Project Manager/Principal Archaeologist. Mr. Duke's team was under contract to provide cultural resource services in compliance with Caltrans, CEQA, NEPA, and Section 106. DUKE CRM conducted a records search, field survey, prepared an APE Map of the project area and is providing Native American Consultation to Ventura County. DUKE CRM prepared an ASR of its efforts and provided recommendations.

VA WLA Master Plan, Los Angeles, 2017-Present. Role: Project Manager/Principal Archaeologist. Mr. Duke's team was under contract to provide an Archaeological Sensitivity Model to evaluate the project for intact buried sites for the Veterans Affairs West Los Angeles in a densely urbanized Brentwood neighborhood. The report summarized buried site sensitivity (BSS) model created to predict areas where archaeological resources were most likely to occur in the 367-acre project area to minimize the costs and disruptions associated with construction monitoring and emergency site treatment.

Golden Avenue Bridge, Placentia, 2017. Role: Project Manager/Principal Archaeologist. Mr. Duke's team was under contract to provide records search, field survey, Native American Coordination, APE Map and prepare a Caltrans-format ASR. Three prehistoric resources and 12 historic resources were located within 1 mile of the project APE. No archaeological resources were identified.

Vanderham Monitoring, Jurupa Valley, 2017-2018. Role Project Manager/Principal Archaeologist. Mr. Duke's team was under contract to provide archaeological/paleontological monitoring during ground disturbance subject to CEQA and mitigation measures set forth in the Initial Study and Mitigated Negative Declaration. DUKE CRM then prepared a combined archaeological/paleontological monitoring report for the City of its findings. One fossil locality was recovered from the project and accessions into the collection of the Western Science Center.

Soto Street Widening, Los Angeles, 2017. Role: Project Manager/Principal Archaeologist. Mr. Duke's team was under contract to provide archaeological/paleontological services for the 7.5-acre project in compliance with CEQA and NHPA. DUKE CRM conducted a records search, field survey, and provided Native American

Coordination. DUKE CRM drafted a combined cultural/paleontological report of its findings. No archaeological/paleontological resources were identified within the project boundaries; however, paleontological research identified numerous fossil localities within 5 miles in geological deposits similar in age to those underlying the project area. Therefore, paleontological monitoring is recommended for ground disturbance in the project area.

Riverside Transmission Reliability Project (RTRP), 2017. Role: Project Manager/Principal Archaeologist. DUKE CRM was under contract to provide Native American consultation services on behalf of the CPUC (AB-52) with Pechanga Band of Luiseño Indians and Gabrieleño Band of Mission Indians-Kizh Nation, prepare technical memorandums and participate in four Native American consultation meetings regarding cultural resources in the project area. DUKE CRM conducted a supplemental records search at the EIC and reviewed the prior cultural resources survey documents prepared for the project.

Camp Pendleton TL 695 & TL6971, Oceanside, 2016-2017. Role: Project Manager/Principal Archaeologist. DUKE CRM was under contract to review and comment on cultural and paleontological resource reports, assist in the Native American consultation required under AB-52, conduct a site visit, and provide technical assistance. Mr. Duke was the Project Manager; he coordinated with the CPUC, Panorama Environmental, SDG&E, Marine Corps Base Camp Pendleton staff, Pechanga Band of Luiseño Indians, and the SDG&E consultant team.

California High-Speed Rail, Palmdale to Burbank Section, 2017. Role: Project Manager/Principal Archaeologist. DUKE CRM conducted 3rd Party review of archaeological, historical, and paleontological inventory reports prepared by other consultants for the Palmdale to Burbank Section of the California High-Speed Rail (HSR). The Palmdale to Burbank Section is approximately 44 miles running from the Antelope Valley in the Mojave Desert up through the San Gabriel Mountains, down into the San Fernando Valley. The HSR crosses the Angeles National Forest. There were 70 cultural resources recorded within the project boundaries.

SR-110 Improvements, Los Angeles, 2017. Role: Project Manager/Principal Archaeologist. Mr. Duke's team was under contract to provide cultural resource services in compliance with CEQA, Section 106, NHPA and Caltrans requirements. DUKE CRM conducted a research, a windshield site visit and prepared one archaeological memo and one paleontological memo summarizing the results, impacts and recommendations for further work on the project.

SR-710 Gap Closure, Los Angeles, 2017. Role: Project Manager/Principal Archaeologist. DUKE CRM was contracted to provide an HPSR with HRER for this LACMTA project proposed to improve mobility and relieve congestion in the area. DUKE CRM conducted a records search and reviewed Caltrans Historic Bridge Inventory and historic properties within the APE. DUKE CRM also prepared project location and APE maps attached to the HPSR. DUKE CRM assisted the City with Native American consultation.

Duarte 3rd and Oak Residential, Duarte, 2016. Role Project Manager/Principal Archaeologist. Mr. Duke's team performed a cultural resource assessment and historical evaluation in compliance with CEQA. This work included a records search, archival/historical research, a historic survey, and a significance evaluation. Two properties within the project date to the historic period but were determined to be not eligible for listing on the California Register of Historical Resources and neither is a historical resource under CEQA.

Bridge Road Bridge, Santa Paula, CA, 2016. DUKE CRM provided archaeological and paleontological services including an ASR, HPSR, PIR, Native American consultation, and an APE Map. Work on this project put on hold before DUKE CRM finished the technical studies.

Veterans Affairs West Los Angeles Campus Hospital Replacement, 2016-Present. Role: Project Manager/Principal Archaeologist. Mr. Duke's team conducted an archaeological assessment for the VAWLA Medical Center Hospital Replacement Project to identify archaeological resources that may be impacted during development of the project. Recent studies discovered two historical archaeological sites and two prehistoric archaeological sites. Field survey and geotechnical monitoring did not identify any archaeological resources within the project. DUKE CRM recommended that no recorded archaeological resources would be impacted by the project.

Veterans Affairs Greater Los Angeles Healthcare System Campus Master Plan, 2017-2018. Role: Project Manager/Principal Archaeologist. DUKE CRM was contracted to provide an Archaeological Sensitivity Model for the project which revitalizes the campus to be more Veteran-focused. Construction of new facilities could impact both previously recorded and undiscovered cultural resources and buried archaeological sites not visible during archaeological survey or testing. The model provided a baseline for planning future development on the property and is designed to minimize the costs and disruptions associated with construction monitoring and emergency site treatment.

Veterans Affairs West Los Angeles Campus Homeless Housing/Spring Structures Project, Los Angeles, 2018. DUKE CRM was under contract to perform archaeological buried sites testing for the proposed 2.5- acre Homeless Housing/Spring Structures project at the VA Greater Los Angeles Healthcare System Campus in West Los Angeles. DUKE CRM excavated seven archaeological trenches and screened samples from each trench to identify any buried archaeological resources that may be impacted by the proposed project in accordance with Section 106 of NHPA. Given the highly disturbed nature of the soils, DUKE CRM concluded that no archaeological resources would be impacted and did not recommend additional measures relating to archaeology.

Coolwater-Lugo Transmission Line, Barstow to Victorville, 2014-2015. Role: Project Manager/Principal Archaeologist. DUKE CRM staff performed cultural and paleontological 3rd party review for the CPUC and BLM, and provided EIR assistance. This project was especially complex given that it involved many significant cultural resources and was located on BLM land.

Baker Water Treatment Plant, Lake Forest, 2014-2015. Role: Project Manager/Principal Archaeologist. DUKE CRM conducted archaeological/paleontological monitoring as part of the fulfillment of the mitigation measures. DUKE CRM identified marine fossils in the Oso Sand Member of the Capistrano Formation.

Veterans Affairs Loma Linda Outpatient Clinic, 2014-2015. Role: Project Manager/Principal Archaeologist. DUKE CRM conducted archaeological and paleontological construction monitoring. In addition, DUKE CRM has provided Native American monitoring by working directly with the San Manuel Band of Mission Indians. The site is located adjacent to the protohistoric Serrano village of Guachama. While no intact archaeological deposit had been discovered, historic and prehistoric artifacts were identified. DUKE CRM worked with the grading and construction crews to ensure compliance with NEPA while avoiding any delays to the construction schedule.

Sycamore-Peñasquitos Transmission Line, San Diego, 2014-2015. DUKE CRM was contracted to provide cultural and paleontological 3rd party review and EIR assistance.

Lago Los Serranos, Chino Hills, 2014. Role: Project Manager/ Principal Archaeologist. DUKE CRM provided archaeological and paleontological monitoring. DUKE CRM found limited and non-significant fossil resources per CEQA. DUKE CRM complied with the mitigation monitoring conditions.

International Autocrafters, Inc., Menifee, 2014. Role: Project Manager/Principal Archaeologist. DUKE CRM was under contract to perform cultural/paleontological resource services for this 1.37-acre project. As a part of this effort, DUKE CRM conducted records searches for cultural and paleontological resources, and a field survey for resources within or adjacent to the project boundaries. Our research indicates that there was high sensitivity for paleontological resources below five feet in depth with the project boundaries. In order to mitigate this potential impact to less than significant under CEQA, DUKE CRM recommended paleontological monitoring below five feet in depth from the current surface.

Rialto Unified School District, Compressed Natural Gas and Transportation Yard, Rialto, 2014. Role: Project Manager/Principal Archaeologist. DUKE CRM was contracted to provide a cultural resources assessment for this 6-acre project. This included research for cultural/paleontological resources, Native American scoping and a field survey and preparation of a cultural resource assessment report of our findings. Our research indicated that there was moderate potential to directly impact cultural (historical) resources under CEQA and a low sensitivity for paleontological resources at or near the surface and a potentially high sensitivity below 10 feet, impacting resources according to CEQA. In order to mitigate those potential impacts to a level that is less than significant under CEQA, DUKE CRM recommended archaeological/paleontological monitoring below 10 feet in depth.

The Westerlies, Oxnard, CA, 2014-2015. DUKE CRM was contracted to provide a cultural resources assessment for the 6.6-acre residential condominium project in compliance with CEQA. As part of that effort, DUKE CRM conducted a records search, field survey, retained a Chumash Native American monitor at the request of the City and provided archaeological support. No cultural materials were discovered.

Dhammakaya International Meditation Center, Azusa, 2013-2014. Role: Project Manager/Principal Archaeologist. DUKE CRM completed a cultural and paleontological resource assessment of the Dhammakaya property. Tasks included research, field survey, architectural survey, historic evaluation of the property. Due to substantial collective losses in integrity of design, materials, and feeling, the MacNeil Mansion-Manresa Retreat Property is not eligible for listing in the California Register of Historical Resources; however, the Property remains eligible for its current designation of "Potential Landmark" under the City's Historic Preservation Ordinance and is therefore considered a historical resource per CEQA. Recommendations were made regarding preservation of significant historic details and elements of the property. The project as designed had a less than significant impact to the MacNeil Mansion-Manresa Retreat Property with proposed mitigation. Mitigation measures include archaeological monitoring in the northwest portion of the property (near an early historic period structure) and paleontological monitoring in the southern half of the property when excavation exceeds approximately five feet in depth and in the northern half of the property when excavation exceeds two foot in depth (due to high paleontologic sensitivity in two separate geologic formations).

Veterans Affairs West Los Angeles Campus Seismic Retrofit, 2013-14. DUKE CRM completed a cultural resources study for this project. DUKE CRM coordinated with a diverse project team including multiple branches of the VA at the Campus and in Washington D.C. In addition, we consulted with Native American groups and other consultants who completed smaller projects on the Campus. Our tasks included a cultural resources records search, field survey, Native American coordination, and preparing an archaeological survey report. The report included a survey for the entire campus, but our APE and mitigation focused on the Seismic Retrofit project. Two historic archaeological resources were recorded dating to the early development of the Campus as the Pacific Branch of the National Home for Disabled Volunteer Soldiers (NHDVS) founded in 1888. Because of the developed nature of the property our emphasis was on the potential for discovery of prehistoric and historical archaeological resources during the implantation phase of development.

Santa Rosa Road Widening Project, City of Camarillo, 2014. DUKE CRM was contracted to provide cultural resources services for supplemental reports. DUKE CRM prepared a supplemental HPSR, ASR, and APE Map for this local assistance project. No cultural resources were identified within the APE. Several of the adjacent parcels contained historic buildings, however they were exempt from further consideration. DUKE CRM worked with Caltrans staff to expedite review of these studies in support of the tight project schedule.

California Street Off-Ramp/Highway 101, City of Ventura, 2014 - Present. DUKE CRM is under contract to provide cultural resources support for this project. DUKE CRM is preparing an ASR and Extended Phase I Survey (XPI) for this project. The project is located in the downtown Ventura area. Prior to the construction of Highway 101 this area consisted of a neighborhood dating to the 1800s-1890s. The San Miguel Chapel site is located immediately adjacent to the project boundaries. The XPI will determine whether or not there are any archaeological resources buried under the current off-ramp and commercial properties that make up the project APE.

Lakeside, Temescal Valley, 2014-2017. DUKE CRM was contracted to provide Phase I and Phase II archaeological services for the 590-acre Lakeside Temescal Valley project. The Phase I study included a records search, field survey, and Native American consultation; and determined that six prehistoric archaeological sites would be physically impacted by the project. Subsequently, a Phase II archaeological excavation was conducted each of these sites, which included the preparation of a research design, mechanical trenching and hand excavations, laboratory analysis, and a detailed technical report. Five of the six sites were recommended eligible for both the National and California Registers; the sixth site will remain preserved. DUKE CRM assisted with extensive consultation with Native American Tribes and conducted a preliminary ethnographic landscape study.

Rice Avenue at 5th Street Grade Separation, Oxnard, 2015-2017. DUKE CRM was under contract to provide Area of Potential Effects Map, Archaeological/Paleontological studies and ASR and PIR, cultural landscape study, historical property survey report (HPSR), Native American consultation and Extended Phase I Survey (XPI), lab analysis and report for this project. DUKE CRM identified three archaeological resources within and/or adjacent to the project. The XPI was conducted to identify possible archaeological resources buried within or immediately adjacent to the APE.

New Model Colony East Bridges Over Cucamonga Creek and Deer Creek Flood Control Channels at Schaefer Avenue, Edison Avenue, Eucalyptus Avenue, and Merrill Avenue, Ontario, 2015. DUKE CRM was contracted to provide a cultural/paleontological resource assessment for this project. As a part of the assessment, DUKE CRM conducted records searches and field survey to identify any cultural/paleontological resources within the proposed project boundaries. No potential historical resources were located within the project boundaries due to construction and modern agriculture activities. However, the project area contains shallow Pleistocene sediments with a high sensitivity for fossils below a depth of 5 feet. Therefore, DUKE CRM recommended paleontological monitoring below 5 feet.

Serrano Ridge Project, Temescal Valley, 2015. DUKE CRM was under contract to provide paleontological monitoring for construction of 87 residential lots in a 25.13-acre lot in the existing Sycamore Creek development. Four weekly monitoring site visits occurred, with field notes, photos and documentation, excavation activities and exposed fossils. Only one fossil locality produced 5+ fossil specimens.

Marywood Pastoral Center, Orange, 2014-2015. Role: Project Manager/Principal Archaeologist. DUKE CRM was under contract to provide cultural/paleontological resource assessment and construction monitoring. As a part of this effort, DUKE CRM conducted a records search including a review of all recorded historic and prehistoric archaeological sites within a 1-mile radius of the project boundary as well as pertinent reports. The paleontological research indicated no fossil localities reported within the project boundaries. However,

geological formations have produced a significant number of fossil specimens in the area which could be impacted by the proposed project during ground disturbance greater than the infill soil depth of 90 feet; therefore, paleontological resources could be encountered during construction and a PMP should be developed to mitigate any further potential adverse impacts to paleontological resources.

Emmanuel Church, Victorville, 2014. DUKE CRM was under contract to provide cultural/paleontological resource services for this 11.33-acre church expansion project. As a part of that effort DUKE conducted records searches, and intensive-level field survey to identify any previously known cultural/paleontological resources. The field survey did not discovery cultural or paleontological resources at the surface. The research conducted indicated a high sensitivity for both prehistoric archaeological resources and paleontological resources during ground disturbing activities. Under CEQA, DUKE CRM recommended a less than significant finding with archaeological/paleontological mitigation be incorporated.

Cherryann-United Methodist, Moreno Valley, 2014. Role: Project Manager/Principal Archaeologist. DUKE CRM was contracted to conduct a cultural resource assessment for this wireless facility in compliance with Section 106 of the NHPA and regulations implementing the NHPA. As part of this effort, DUKE CRM conducted a records search for cultural resources and other online resources. A pedestrian field survey was also conducted of the project APE and a vehicular survey of the surrounding area. The records search identified a prehistoric archaeological site 500' southwest of the facility. No cultural resources were identified in the direct APE so there is little potential for indirect impacts.

Lincoln Specific Plan, Whittier, 2014. Role: Project Manager/Principal Archaeologist. DUKE CRM conducted an archaeological and paleontological assessment for the Lincoln Specific Plan. The project is located at the site of the former Fred C. Nelles Youth Correctional Facility. A records search at the SCCIC and NHMLAC, Native American consultation, and a field survey were conducted. The Nelles Facility was built in 1891 and is listed as California Historical Landmark No. 947. It is also eligible for the National Register of Historic Places. Our study determined that there is a high sensitivity for early historic buried components of the Nelles Facility. In addition, it was determined that future excavation could impact buried paleontological resources at depth. A mitigation monitoring plan was recommended that included historic archaeological monitoring in excavation in the top 7 feet of excavation and paleontological monitoring below 7 feet.

Rancho Road Widening, City of Westminster, 2014. Role: Project Manager/Principal Archaeologist. DUKE CRM was contracted to provide cultural resources support for this local assistance project. DUKE CRM prepared an HPSR, ASR, and APE Map for this project. No cultural resources were identified within the APE. Several of the adjacent parcels contained historic buildings. DUKE CRM worked with Caltrans staff to reduce the size of the APE so that these resources were not within the APE. This was largely due to the limited nature of the project and its potential to impact these built-environment historic resources.

Petersen Ranch, Leona Valley, 2013-2014. Petersen Ranch is approximately 3,900 acres and is a Mitigation/Conservation Bank (Project). Mr. Duke's role on this project was cultural resources Principal Archaeologist. DUKE CRM conducted a records search, Native American consultation, and a field survey. The 236-acre restoration area is considered the project area of potential effects (APE) for the purposes of Section 106 of the National Historic Preservation Act (NHPA) The records search did not identify any archaeological resources within the project APE. However, three cultural resources were located within the 3,900 Project footprint: CA-LAN-1074H-an adobe structure, possibly 140 years old, CA-LAN-1073/H- an isolated prehistoric stone biface and an iron cannonball from the Gun Club which was/is located on the property, and CA-LAN-3478H-remnants from the old Foothill Ranch during the records search. The field survey identified two isolated prehistoric artifacts (Iso-1 and Iso-2) and a small prehistoric artifact scatter (S-1, 2 manos and a core). The isolates had limited research potential and were not considered significant or eligible for the National

Register of Historic Places (National Register); while the artifact scatter may have additional artifacts associated with it buried or obscured by vegetation and could be potentially eligible for the National Register. DUKE CRM recommended avoidance of this site or if impacts were unavoidable conducting Phase II Archaeological evaluation/excavation to determine if it is eligible for the National Register.

Olive View Medical Center, San Fernando, 2012-14. Mr. Duke's role on this project was Principal Archaeologist. DUKE C R M prepared a Phase I Archaeological Survey Report and conducted archaeological monitoring. For the Phase I Mr. Duke conducted the records search, field survey and report preparation. He also led the consultation efforts with Native Americans on behalf of the County and FEMA. The results of the survey were negative, meaning that no archaeological resources were identified and there were no delays to the project. However, SHPO recommended archaeological monitoring due to a perceived high potential for historical archaeological resources.

Thomas Ranch, Corona, 2013-2014. Role: Project Manager/Principal Archaeologist. DUKE CRM conducted archaeological and paleontological monitoring and negotiated the Cultural Resources Treatment and Monitoring Plan. Mr. Duke worked with both the Pechanga Band of Luiseño Indians and the Soboba Band of Luiseño Indians to reach consensus on the treatment of cultural resources. It was decided that any artifacts would be turned over to the Pechanga for permanent curation. The Pechanga and Soboba alternated weeks of monitoring rather than both Tribes being reimbursed the entire time of monitoring.

Wyle Laboratories Testing Project, Norco, 2013-15. DUKE CRM was contracted to provide archaeological monitoring for hazardous materials soil testing at the Wyle Laboratories in Norco. A prior study identified prehistoric archaeological resources within the area of the proposed testing. DUKE CRM worked with the Pechanga Band of Luiseño Indians and the project team during testing in areas of the property that were adjacent to, and/or within archaeological resources.

6th Street Viaduct Replacement Project, City of Los Angeles, 2013. Role: Project Manager/Principal Archaeologist. DUKE CRM is under contract to provide archaeological and paleontological support for the construction phase of this project. The viaduct is comprised of two bridges: 1) a bridge over the Los Angeles River and the UPRR, BNSF, Metrolink, and Metro Railroads; and 2) a bridge over U.S. Highway 101. Mr. Duke's role on this project is Project Manager and Principal Archaeologist for archaeology. DUKE CRM prepared an Environmentally Sensitive Area (ESA) Action Plan for archaeology and worked with Bruce Lander who prepared a Paleontological Mitigation Plan (PMP). These documents will be used to specify how archaeological and paleontological resources shall be treated during construction of this multi-year, multi-phase project. DUKE CRM will be responsible for overseeing the implementation of the archaeological and paleontological monitoring program on behalf of the City to ensure that mitigation measures are adhered to.

Alon Bakersfield Refinery Crude Flexibility Project, Bakersfield, 2013. Role: Project Manager/Principal Archaeologist. DUKE CRM was under contract to conduct a cultural resources assessment in compliance with CEQA for this 427-acre improvement project. As part of this effort, DUKE CRM conducted a records search, Native American consultation, field survey and historic resource evaluation which identified one cultural resource within the project boundaries and 12 within a ½ mile radius. None of the Native American consulted had specific information about cultural resources that may be impacted by the project. The historic-built environment evaluation found four historic buildings with the project boundaries; however, none of them were considered historically significant under CEQA.

BP Pier B, Building 2, Port and City of Long Beach, 2013. Role: Project Manager/Principal Archaeologist. DUKE CRM conducted a records search and historic evaluation of Building 2. DUKE CRM was assisted by Heritage Preservation Consultants; a sub-consultant. BP Pipelines proposed to demolish Building 2 as it is no longer in use. The Port of Long Beach required that the building be evaluated for historic significance. The results of our efforts determined that Building 2 is not eligible for the National Register of Historic Places.

However, the building appears to be eligible as a City of Long Beach Landmark. The City has 11 criteria which a building can possible meet to be considered eligible; however, a building need only meet one criterion to be considered eligible. Building 2 is considered eligible under criteria K (It is one of the few remaining examples in the city, region, state or nation possessing distinguishing characteristics of an architectural or historical type).

A-1 Self Storage, San Juan Capistrano, 2013. Role: Project Manager/Principal Archaeologist. DUKE CRM was under contract to conduct archaeological monitoring for this project.

46 Cambridge Court, Coto de Caza, Orange County, CA, 2013. Role: Project Manager/Principal Archaeologist. DUKE CRM was under contract to provide cultural/paleontological resource services for this residential lot of 1.6 acres in compliance with CEQA. This effort included records searches to identify any cultural or paleontological resources, a field survey and preparation of a cultural/paleontological resource assessment. Our efforts indicated that the project area was moderately high sensitivity for both cultural (archaeological) and paleontological resources. Monitoring was recommended during construction to mitigate to a level that is considered less than significant.

3 Tracts, Escondido, 2013. Role: Project Manager/Principal Archaeologist. DUKE CRM completed a cultural resources records search and field survey of three separated tracts in the City of Escondido. The records search was completed through the South Coastal Information Center, located at San Diego State University. A paleontological study was completed through the San Diego Natural History Museum. No cultural resources were identified during the study.

Laverne Avenue Retention Basin Project, Barstow, 2013. DUKE CRM was retained by the City of Barstow to conduct a Class III Cultural Resources survey for the Barstow BLM for this project. The project will include improvements to control run-off flows which are collected within existing residential areas south of the Interstate 15 and conveyed through I-15 ROW within concrete box culverts. DUKE CRM conducted a records search, an intensive-level field survey and pedestrian survey to check the status of previously recorded cultural resources and to identify any previously recorded cultural resources. Our research and field survey indicate that the cultural resources observed within the APE were not eligible for the National Register. The area had been previously disturbed. A finding of no adverse effect under Section 106 was recommended. No further investigations were needed.

AT&T Mobility, On-Call, 2011-2014. DUKE CRM has conducted cultural resources studies for multiple cell site installations throughout southern and central California. Tasks completed include: records searches, field surveys, Native American consultation, and reports. Several of these projects have included installations located within and near archaeological resources.

Mobilitie, On-Call, 2011-2012. Role: Project Manager/Principal Archaeologist. Mr. Duke conducted records searches, field surveys and prepared reports for various wireless facilities throughout southern and central California.

Sepulveda Boulevard Bridge Widening, Manhattan Beach, 2012-13. Mr. Duke's role on this project is Project Manager/Principal Archaeologist. DUKE CRM prepared a Phase I Archaeological Survey Report. Mr. DUKE's team conducted a field survey, records search, and report preparation. The results of the assessment were negative, meaning that no archaeological resources were identified and there were no delays to the project. Caltrans is the lead agency for NEPA; the City is the lead agency for CEQA.

Lamb School Residential Subdivision, Huntington Beach, 2013. Role: Project Manager/Principal Archaeologist. DUKE CRM conducted the cultural resources mitigation measures required by the City. This included historical documentation of the school building and site, and archaeological and paleontological construction monitoring. The DPR site record were submitted to the South Central Coastal Information Center and the monitoring report was submitted to the City.

Wardlow School Residential Subdivision, Huntington Beach, 2013. Role: Project Manager/Principal Archaeologist. DUKE CRM conducted the cultural resources mitigation measures required by the City. This includes historical documentation of the school building and site, and archaeological and paleontological construction monitoring. DPR site record were submitted to the South Central Coastal Information Center and the monitoring report was submitted to the City.

Scalzo Property, San Juan Capistrano, 2012. Role: Project Manager/Principal Archaeologist. Mr. Duke conducted a due diligence study for this 16-acre property. This work included research, site visit, and brief letter report.

1st Street over Glendale Boulevard, Los Angeles, 2012. Mr. Duke's role on this project was Project Manager/Principal Archaeologist. DUKE CRM was under contract to prepare a Phase I Archaeological Survey Report and Historic Property Survey Report. Mr. Duke's team conducted a field survey and report preparation. The results of the assessment were negative, meaning that no archaeological resources were identified and there were no delays to the project.

San Fernando Road Widening at Balboa Road, Los Angeles, 2012. Role: Project Manager/Principal Archaeologist. DUKE CRM was under contract to prepare a Phase I Archaeological Survey Report and Historic Property Survey Report. Mr. Duke's team conducted the research, field survey, and report preparation. The results of the assessment were negative, meaning that no archaeological resources were identified and there were no delays to the project. DUKE CRM also prepared a Paleontological Identification Report.

Hearst Castle Telecommunications Tower, Pacific Bell Wireless/Cingular Wireless/T-Mobile, 2000, 2001, 2012. Mr. Duke was responsible for completing and overseeing three separate studies on the Hearst Castle property which is listed on the National Register of Historic Places. The first 2 studies in 2000 and 2001 were prepared for the initial placement of the tower and power run, respectively. These reports were reviewed and approved by the County of San Luis Obispo and the State Historic Preservation Officer (SHPO). In 2012, Mr. Duke prepared a compliance report for the placement of new antennas on the tower. The 2000 and 2001 studies were completed while with a former employer.

California Avenue Widening, Long Beach, 2011. Role: Project Manager/Principal Archaeologist. DUKE CRM prepared a Phase I Archaeological Survey Report. DUKE CRM conducted the research, field survey, and report preparation. The results of the assessment were negative, meaning that no archaeological resources were identified and there were no delays to the project.

Palomar Mountain Fuels Modification, 2011. Role: Project Manager/ Principal Archaeologist. DUKE CRM conducted a Phase I archaeological survey of 11.5 acres. The survey report was completed quickly and was accepted by the Palomar Mountain Fire Safe Council and the BLM without any comments.

Mid County Parkway, Riverside County, CA, 2004-2011. Role: Task Manager/ Principal Archaeologist. The studies for the Mid County Parkway project included a 32-mile corridor (from Interstate 15 to State Route 79) in western Riverside County. The archaeological survey covered 3,680 acres and identified 91 archaeological sites. An extended Phase I survey (limited excavation) was conducted at 79 of the sites. Ultimately Phase II excavations were conducted at eight of the sites. Four archaeological sites were determined eligible for the National Register. A built environment historic resources survey was conducted and one historic dairy was determined eligible for the National Register. This project included extensive consultation with Indian Tribes. All work was conducted in compliance with Section 106 of the NHPA, NEPA, and CEQA. FHWA, Caltrans, and RCTC were the lead agencies and Jacobs Engineering was the lead engineering firm under contract to RCTC. Employer: LSA Associates.

Colton Crossing Rail-to-Rail Grade Separation, Colton, CA, 2008-2011. Role: Project Manager/ Principal Archaeologist. The Colton Crossing project involved the separation of the at-grade crossing of the UP and

BNSF railroads. The Colton Crossing is a historically significant railroad crossing where a stand-off between the SP and California Southern railroads took place. Despite SP's efforts the California Southern railroad was granted access across SP's right-of-way. Research showed that the project's APE contained numerous historic buildings and was very active in historic times. Under Mr. Duke's direction an archaeological survey and an extended Phase I survey (limited excavation) were conducted. Sixteen historical archaeological sites were discovered; these included building remnants and refuse deposits. None of the archaeological sites were determined eligible for the National Register. A built environment historic resources survey evaluated the UP and BNSF railroads, the SP passenger depot, the American Railway Express Company building, and the historic South Colton neighborhood; none of which were determined eligible for the National Register. All work was conducted in compliance with Section 106 of the NHPA, NEPA, and CEQA. FHWA and Caltrans were the lead agencies working in cooperation with SANBAG, FRA, UP, and BNSF. HDR was the lead engineering firm under contract to SANBAG. Employer: LSA Associates.

I-15/I-215 Interchange Project, Devore, San Bernardino County, 2008-11. Role: Task Manager. Mr. Duke was the cultural resources task manager. Under Mr. Duke's direction an ASR, HRER, and HPSR were prepared. An archaeological site was recorded immediately adjacent to the project boundaries, within the APE. Mr. Duke and his staff worked closely with the Caltrans archaeologist to record and evaluate this site for the National Register without conducting a Phase II excavation. In doing this, the client saved thousands of dollars and almost one year on their schedule. His staff also evaluated a portion of historic Route 66 and several related historic buildings. Employer: LSA Associates.

24th Street Improvements, City of Bakersfield, 2008-2011. Mr. Duke's role on this project was Cultural Resources Task Manager/Principal Archaeologist. Mr. Duke prepared the Historic Property Survey Report. He managed a team of archaeologists, paleontologists, and historians to complete the HRER, ASR, PIR/PER, and APE map. He conducted the archaeological field survey. His team identified 93 historic period buildings/structures, including two historic districts. Employer: LSA Associates.

Alta East Wind Project, Mojave, Kern County, CA 2010-11. CH2M HILL, Inc., requested a paleontological resources assessment for the Alta East Wind Project northwest of the City of Mojave in southeastern Kern County, California. The project includes developing pads for wind generation turbines, turbine access and service roads, management facilities, and a transmission line running from the center of the project south to connect with an existing distribution grid. The study area includes five sections of land that contain sediments that have potential for paleontological resources. The early Pliocene Horned Toad Formation contains the late Hemphillian Warren Local Fauna, with 24 fossil mammalian taxa. The literature review identified 34 fossil localities in the Horned Toad Formation, 12 of which were verified within project boundaries. The field survey located an additional 69 localities within project boundaries. Because of the potential for direct impacts to all paleontological resource localities, mitigation procedures are summarized. A project-specific paleontological resources impact mitigation program (PRIMP), including fossil salvage by qualified paleontologists, was recommended to accompany development of this project. Employer: LSA Associates.

I-215/SR-74 Interchange Improvements Project, Perris: Paleontological Mitigation Monitoring, 2010-11. Mr. Duke was the Task Manager for this project. The scope of work included paleontological monitoring during grading operations and environmental awareness (paleontological focus) training. He was responsible for working with the qualified paleontologist and coordinating field assignments for this project. Mr. Duke and his staff worked a communication system with the grading contractor that allowed for minimal field effort while achieving compliance. This allowed for savings to the overall budget. Employer: LSA Associates.

Aliso Canyon Park Improvements, Los Angeles, 2010. Under contract to the City of Los Angeles, Bureau of Engineering Mr. Duke prepared a Phase I Archaeological Survey Report. Mr. Duke was the project manager and principal-in-charge for this project. He oversaw the research, field survey, and report preparation. The results of the assessment were negative, meaning that no archaeological resources were identified and there were no delays to the project. Employer: LSA Associates.

Five Winds Ranch Conservation/Mitigation Bank, Yucaipa, San Bernardino County, 2010. Mr. Duke served as the Principal-in-Charge for this project. He coordinated with staff biologists and archaeologists to complete a general biological survey, a waters/wetland delineation, a cultural resources survey, a Mitigation

Banking Feasibility Study, a draft and final Mitigation Banking Prospectus, and a Bank Enabling Instrument. Several cultural resources were identified, both historic and prehistoric in nature. These resources were not impacted and therefore no additional work was necessary. Employer: LSA Associates.

Mammoth Lakes Parks and Recreation and Trail System Master Plan, 2010. Mr. Duke prepared a cultural resources assessment for the Draft Parks and Recreation Master Plan (PRMP) and the Draft Trail System Master Plan (TSMP) EIRs. He conducted a records search, site visits, and prepared a report documenting the effort and making management recommendations. The cultural resource assessment was completed pursuant to California Environmental Quality Act (CEQA). Employer: LSA Associates.

P.I. Market Archaeological Monitoring, Pismo Beach, 2007. Mr. Duke oversaw the completion of archaeological monitoring associated with the demolition of the P. I. (Philippine Islands) Market. The P.I. Market opened in 1936 by Filipino immigrant Jorge Tejada. Over the years the Market became a central place for the Filipino community. The Market closed in 1972 due to competition and the development of the modern Supermarket. The Market was evaluated for the California Register of Historical Resources and determined not eligible. The finding also determined that archaeological monitoring of demolition may discover historic artifacts of public interest. While no significant finds were made, a few household items were collected. This project was completed while with a previous employer.

Rancho Vista Boulevard (Ave. P) Grade Separation Project, Palmdale, 2007-10. Mr. Duke's role was Principal Archaeologist, providing project supervision and regulatory expertise. Under contract to the City of Palmdale and LAN Engineering, Mr. Duke's team conducted a records search and field survey, and prepared an Archaeological Survey Report and Historic Properties Survey Report which was reviewed and approved by Caltrans. The results of the assessment were negative, meaning that no archaeological resources were identified and there were no delays to the project. Employer: LSA Associates.

California Valley Solar Ranch, California Valley, San Luis Obispo County, 2009-10. Role: Principal-in-Charge. California Valley Solar Ranch is a 4,000-acre project located on the Carrizo Plain in eastern San Luis Obispo County. Mr. Duke was the Principal-in-Charge for this project. His team conducted a records search, field survey, Native American scoping, and prepared an archaeological survey report. His team identified, recorded, and evaluated several historical archaeological sites. Employer: LSA Associates.

Melrose Triangle, West Hollywood, 2009-10. Under contract to the City of West Hollywood Mr. Duke oversaw the preparation of a historic resources survey which included research, field surveys, and preparation of a historic context and survey report. Mr. Duke acted as the principal-in-charge for this project. Employer: LSA Associates.

Hollyhock House, Barnsdall Park, Los Angeles, 2009-10. Under contract to the City of Los Angeles, Bureau of Engineering Mr. Duke oversaw the preparation of a supplemental historic structure report which included research, field inspection, and preparation of a report. Mr. Duke acted as the principal-in-charge for this project. Employer: LSA Associates.

Delano-Alpaugh Water Reclamation Pipeline, Kern and Tulare Counties, 2006-2009. Mr. Duke prepared a cultural resources assessment study for the Delano-Alpaugh Water Reclamation Pipeline (DAWRP) while working for a previous employer. His role was cultural resources task manager and principal Archaeologist. The project was approximately 11 miles Long. The research and field survey were conducted to determine whether the DAWRP project would result in impacts to any historical resources and/or unique archaeological resources. The cultural resources assessment was completed pursuant to CEQA and Section 106 of the NHPA. His team completed a cultural resources records search and a field survey. The project was immediately adjacent to Allensworth State Historic Park and National Register Historic District. The field survey identified two historical archaeological sites adjacent to the project alignment. Employer: LSA Associates.

Professional Hospital Supply, Temecula, 2008. Mr. Duke and his staff were retained by the Garrett Group to conduct an Archaeological and Paleontological Monitoring Program for the 32-acre Professional Hospital Supply Project in the City of Temecula. The construction monitoring program is the result of an agreement between the City of Temecula and the Pechanga Band of Mission Indians due to the presence of a portion of

an archaeological site near the project boundaries. No cultural or paleontological resources were identified. Employer: LSA Associates.

Lancaster Highlands Project, Meridian Land Development Company, 2007. Mr. Duke oversaw the completion of a cultural resource assessment for the 1,891-acre project. All work was completed for Meridian Land Development Company. Tasks included a records search and field survey for archaeology and paleontology. Employer: LSA Associates.

Temecula 32, Archaeological Phase II Testing, 2007. Mr. Duke and his staff were retained by the Garrett Group to conduct an intensive pedestrian survey and test excavation in and around the reported location of a prehistoric lithic scatter. However, no remnants associated with the site were identified on or beneath the surface. Therefore, Mr. Duke recommended that this site should not be considered "a unique archaeological resource" or "historical resource" under CEQA. LSA worked with the Pechanga Band of Luiseño Indians and they monitored all field activities. Employer: LSA Associates.

I-15/SR-79 Interchange Project, Riverside County, 2006-10. Role: Task Manager. Mr. Duke was the cultural resources task manager. This project is located on top of a significant, National Register-listed archaeological site that is also very sacred to the Luiseño Band of Indians. Under Mr. Duke's direction an ASR, ESA Action Plan, and HPSR were prepared. Due to the sensitivity surrounding the sacred site Mr. Duke and his staff consulted regularly with the Caltrans archaeologist, Native American Coordinator, and Native Americans. Employer: LSA Associates.

Residence "A," Barnsdall Park, Los Angeles, 2009. Under contract to the City of Los Angeles, Bureau of Engineering Mr. Duke oversaw the preparation of a historic structure report which included research, field inspection, and preparation of a report. Mr. Duke acted as the principal-in-charge for this project**.** Employer: LSA Associates**.**

Westlake Historic Resources Survey, Los Angeles, 2008-09. Under contract to the Community Redevelopment Agency of Los Angeles (CRA LA) and Chattel Architecture Planning and Preservation, Inc. Mr. Duke oversaw the preparation of a historic resources survey which included research, field surveys, and preparation of a historic context and survey report. Mr. Duke acted as the principal-in-charge for this project. Employer: LSA Associates.

Needles Highway Improvement Projects, County of San Bernardino, 2004-08. Role: Cultural Resources Task Manager. To complete this project Mr. Duke oversaw the completion of archaeological and paleontological research and field surveys along Needles Highway between the City of Needles and Aha Macav Parkway. During the study a total of 45 cultural resources identified; 14 were previously recorded and 31 were newly recorded. These resources include 33 prehistoric cultural resources, four historic cultural resources, two cultural resources with historic and prehistoric components, and six cultural resources of unknown age. All work was completed in compliance with CEQA, NEPA, and NHPA. Employer: LSA Associates

Superstition Solar I Project, Salton Sea, Imperial County, 2008. Role: Principal-in-Charge. Superstition Solar I was a 5,600-acre project located on BLM Land. Mr. Duke was the Principal-in-Charge for this project. His team conducted a records search, reconnaissance survey, Native American scoping, and prepared a Class III Intensive Survey Research Design. Employer: LSA Associates.

Thomas Mountain Fuels Reduction Project, near Idyllwild, CA, 2008. Mr. Duke and his colleague Virginia Austermann worked with the San Bernardino National Forest (SBNF) to complete a cultural resources assessment of the proposed 10,465-acre Thomas Mountain Fuels Reduction project located in the San Jacinto Ranger District of the San Bernardino National Forest, Riverside County, California. The proposed project was an undertaking that could have affected heritage resources, and the archaeological survey of the area of potential affect (APE) was conducted in compliance with Section 36 CFR Part 800 of Section 106 of the NHPA. The report presented the results of the records search, numerous field surveys completed by others from 1980 through 2007, and Native American consultation. In total nineteen cultural resources were documented and

considered for planning purposes. Working with the SBNF archaeologist, our team applied the 1996 *Programmatic Agreement for Compliance with Section 106 of the National Historic Preservation Act for Undertakings on the National Forests of the Pacific Southwest Region*. Mr. Duke's role was Principal-in-Charge overseeing all contract negotiations and providing quality control. Employer: LSA Associates

Magnolia Boulevard Widening, Los Angeles, 2008. Under contract to the City of Los Angeles, Bureau of Engineering Mr. Duke prepared a Phase I Archaeological Survey Report. Mr. Duke was the project manager and principal-in-charge for this project. He oversaw the research, field survey, and report preparation. The results of the assessment were negative, meaning that no archaeological resources were identified and there were no delays to the project. Employer: LSA Associates

South District Maintenance Yard, Los Angeles, 2008. Under contract to the City of Los Angeles, Bureau of Engineering Mr. Duke oversaw the preparation of a historic resources survey which included research, field surveys, and preparation of a historic context and survey report. Mr. Duke acted as the principal-in-charge for this project. Employer: LSA Associates

Fire Station 82, Los Angeles, 2008. Under contract to the City of Los Angeles, Bureau of Engineering Mr. Duke oversaw the preparation prepared of a historic resources survey which included research, field surveys, and preparation of a historic context and survey report. Mr. Duke acted as the principal-in-charge for this project. Employer: LSA Associates

Chuckwalla Solar I Project, Desert Center, Riverside County, 2007-08. Chuckwalla Solar I was a 4,000-acre project located on BLM Land. Mr. Duke was the Principal-in-Charge for this project. His team conducted a records search, intensive field survey, Native American scoping, and prepared a Class III Intensive Survey Report. Employer: LSA Associates

McSweeny Farms, Hemet, CA, 2004-2008. Mr. Duke directed all cultural resources efforts for the McSweeny Farms project. He conducted third-party review of prior Phase I archaeological survey and extended Phase I survey. His team conducted Phase II and geoarchaeological excavations at several sites throughout the project, one of which is a large, regional prehistoric village site. Mr. Duke worked with SunCal, the City of Hemet, the Army Corps of Engineers (ACOE), and local Indian Tribes to balance the needs of each party. In addition, his team provided archaeological and paleontological monitoring for the project. He worked with Tribal monitors to document important archaeological sites, while maintaining the overall project schedule. Employer: LSA Associates

Hacienda at Fairview Valley Specific Plan, Apple Valley, Mojave Desert, CA, 2007-08. The Fairview Valley Specific Plan project is located near the Town of Apple Valley in the high desert. Under Mr. Duke's direction a team of archaeologists conducted a records search, field survey, and prepared a technical report for the County of San Bernardino. The team identified 73 cultural resources and determined that only 15 of these resources are considered significant under CEQA. The team worked with the project applicant and design team to avoid or mitigate impacts to all of the significant cultural resources. Employer: LSA Associates.

Majestic Hills Specific Plan, Hesperia, Mojave Desert, CA, 2006-07. The Majestic Hills Specific Plan project is located in the City of Hesperia in the high desert. Under Mr. Duke's direction a team of archaeologists conducted a records search, field survey, and prepared a technical report for the City. The team identified 32 cultural resources and determined that 11 of these resources are considered significant under CEQA. The team worked with the project applicant and design team to avoid or mitigate impacts to all of the significant cultural resources. Employer: LSA Associates.

Temecula Education Center, 2006. Mr. Duke and his staff were retained by the City of Temecula to conduct an Archaeological Monitoring Program for the Temecula Education Center Project. The construction monitoring program for the 40-acre site is the result of an agreement between the City of Temecula and the Pechanga Band of Mission Indians due to the presence of a portion of site CA-RIV-237 within the project boundaries. Minimal archaeological data were recovered.

Mesquite Regional Landfill, Imperial County, CA, 2004-2006. Under contract to the Sanitary Districts of Los Angeles County, Mr. Duke conducted a Class III Data Recovery project for ten Native American cultural resources within the boundaries of the proposed Mesquite Regional Landfill (MRL) Project, located in Imperial County, California. This effort was combined with a supplementary cultural resource reconnaissance of adjacent Bureau of Land Management (BLM) land to identify the extension of these resources beyond the project boundaries. Employer: LSA Associates.

20th Street West Extension, Palmdale, 2006. Mr. Duke's role was Principal Archaeologist, providing project supervision and regulatory expertise. Dr. Lange led the field survey and prepared the report. Under contract to the City of Palmdale and LAN Engineering, Mr. Duke and his team conducted a records search and field survey, and prepared an Archaeological Survey Report. The results of the assessment were negative, meaning that no archaeological resources were identified and there were no delays to the project. Employer: LSA Associates.

Southern California Edison, Southern and Central, CA, 2003-2005. Mr. Duke worked with SCE on its deteriorating poles program. As poles are deteriorating, SCE replaces them with new poles. Prior to pole replacement archaeological surveys were conducted of each pole location. The majority of this work has been conducted on federal lands. Under his direction archaeologists have surveyed over 2,000 pole locations in the Inyo National Forest, Angeles National Forest, San Bernardino National Forest, Sequoia National Forest, and under the jurisdiction of California and Arizona offices of the Bureau of Land Management (5 different field offices). In this process, his team recorded more than 35 archaeological resources ranging from isolated chipped stone to historic mining sites. His historian evaluated the Catalina Tile Company manufacturing plant on Catalina Island for the California Register of Historical Resources. Mr. Duke worked closely with SCE staff and various Federal agencies to ensure a quick review and approval of the cultural resources efforts. Employer: LSA Associates

Community and Environmental Transportation Acceptability Process (CETAP), Riverside, CA, 1999-2001. Mr. Duke participated in a reconnaissance survey that recorded over 500 prehistoric and historic resources. The results of the cultural resource efforts were reported in a HPSR, HRER and an ASR. Mr. Duke assisted in preparing the reports and provided management for the cultural resources aspect of this project. Employer: LSA Associates

Los Coches Creek Elementary School, near Alpine, CA, 2003–2006. Mr. Duke conducted a Phase I archaeological survey and oversaw subsequent Phase II test excavations. All work was conducted under the authority of the U.S. Army Corps of Engineers (ACOE). Mr. Duke worked with the El Cajon Union School District and the ACOE to avoid impacts to a majority of the cultural resources on site. Employer: LSA Associates

Whipple-Havasu Circuit, SCE, near Lake Havasu, CA, 2003. Role: Project Manager/Principal Archaeologist. Mr. Duke's team conducted an archaeological survey of 249 poles along 25 miles of land located on the Chemehuevi Indian Reservation and BLM lands. The project was located within the boundaries of the Desert Training Center (DTC); however, no DTC cultural resources were observed. Seven cultural resources were identified: four prehistoric sites, two prehistoric isolates, and one 1920s historic camp. All work was completed in compliance with NHPA and NEPA. Employer: LSA Associates

McCoy Circuit, SCE, Near Blythe, CA, 2003. Role: Project Manager/Principal Archaeologist. Mr. Duke's team conducted an archaeological survey of 388 poles along 19 miles of land located on BLM lands. The project was located within the boundaries of the Desert Training Center (DTC); however, no DTC cultural resources were observed. Four cultural resources were identified within or adjacent to the project boundaries: one historic/prehistoric site with an intaglio, two historic sites, and one prehistoric site. All work was completed in compliance with NHPA and NEPA. Employer: LSA Associates.

Limonite Senior Project, Pedley, CA, 2004. Role: Principal Archaeologist. Mr. Duke's team conducted CEQA Phase I survey of the 30-acre project, archival research for previously recorded resource within the project, updated site record recommending to the California Register and reviewed final report. Employer: LSA Associates.

Trailmark Specific Plan, Romoland, CA, 2004-2005. Role: Principal Archaeologist. Mr. Duke managed team field work for CEQA evaluations of four prehistoric sites, two historic sites, and one combination prehistoric and historic site. Mr. Duke directed field excavations, including 1x1 test units, shovel test pits, mechanical trenching, and surface collection, supervised artifact analysis, crew members and reviewed final report. Employer: LSA Associates

Stoneridge Estates, Moreno Valley, CA, 2004. Role: Principal Archaeologist. Mr. Duke oversaw the survey of approximately 300 acres and the recordation of 12 prehistoric sites as well reviewed final report. Employer: LSA Associates.

Gibbel Estates Project, 80 Acres, Hemet, CA, 2004. Role: Principal Archaeologist. Mr. Duke's team conducted CEQA survey of 80 acres, recordation of one new prehistoric site, the Phase II evaluations of new site and one previously recorded site recommended eligible to the California Register. Supervised field director, field crew and reviewed final report. Employer: LSA Associates.

Rancho Bella Vista, Riverside County, CA, 2004. Role: Principal Archaeologist. Mr. Duke's team conducted artifact analysis of collections recovered at three sites during construction monitoring. Mr. Duke oversaw, Lab Director, technician and field crew as well as reviewed final report. Employer: LSA Associates.

Murrieta Springs (Tract Map Number 29707), Murrieta, CA, 2004. Role: Principal Archaeologist. Mr. Duke's team prepared site records for a newly recorded site discovered during construction monitoring, conducted artifact analysis of the collection from this new site. Mr. Duke reviewed final report. Employer: LSA Associates.

Oak Valley Specific Plan 1 Amendment, Beaumont, CA, 2004. Role: Principal Archaeologist. Mr. Duke's team conducted the CEQA survey of this 2,600-acre project, recordation of the historic architectural resources. Mr. Duke edited and reviewed final report. Mr. Duke supervised a Field Director, and 4 field crew members. Employer: LSA Associates.

Xavier College Preparatory High School, Thousand Palms, CA, 2004. Mr. Duke's team conducted the CEQA Phase I survey of 100 acres. He supervised the Field Director and Field Crew and reviewed the final report. Employer: LSA Associates.

French Valley Assemblage, Menifee, CA, 2004. Mr. Duke served as Principal Archaeologist for the CEQA Phase I survey of this 160-acre project and edited and reviewed and final report. Employer: LSA Associates.

Menifee 60 Project, Menifee, CA, 2004. Mr. Duke served as Principal Archaeologist for the CEQA Phase I survey of 60 acres, supervised Field Director and Field Crew as well as edited and reviewed the final report. Employer: LSA Associates.

Orchard Hills (Planning Area 1), Irvine, 2002. Under contract to the Irvine Company, Mr. Duke conducted Phase II archaeological excavation on several sites. Mr. Duke served as the field director and co-Principal Investigator. This work was completed by Mr. Duke while with another employer.

Santa Rosa Geysers Recharge Project, Santa Rosa County, 1999. Mr. Duke participated an archaeological field survey for the Geysers Recharge Project. This work was completed while with a former employer.

Muddy Canyon Archaeological Project (Crystal Cove-Phase IV), Newport Coast, Orange County, 1999-02. Mr. Duke served as field crew and cartographer for the Phase II test excavations and field director and cartographer for Phase III data recovery excavations. Mr. Duke supervised up to 15 archaeologists excavating at eight prehistoric archaeological sites.

Fort Irwin, National Training Center, CA, 1999. Role: Crew Chief/Teaching Assistant. Mr. Duke assisted in a Field School for CSU, Fullerton. He instructed students in proper survey techniques, artifact identification, and site record preparation. In addition, Mr. Duke co-authored the survey report.

San Nicolas Island, Naval Base Ventura County, CA, 1997. Role: Field crew. Mr. Duke was part of an excavation and lab crew conducting test excavations at various archaeological sites. Laboratory sorting was conducted in the evenings. Employer: Petra Resources

Salton Sea Navy Test Base, CA, 1996-97. Role: Field crew. Mr. Duke was part of a survey crew conducting intensive surveys on the west shore of the Salton Sea. Excavation was conducted at sites that appeared to be significant. Employer: KEA Environmental

Chocolate Mountains Gunnery Range, CA, 1996. Role: Field crew. Mr. Duke was part of a survey crew conducting intensive surveys in the Chocolate Mountains. Employer: KEA Environmental

Mission Santa Cruz Archaeological Excavations, 1993. Mr. Duke participated in the 1993 Cabrillo College Archaeological Field School. Archaeological excavations occurred outside the chapel in search for the corner of the original mission building.

Allan Brown Site (CA-SCR-20) near Bonny Doon, Santa Cruz County, 1993. Mr. Duke participated in the 1993 Cabrillo College Archaeological Field School. As part of the archaeological survey Mr. Duke surveyed the Allan Brown site in Santa Cruz County.

Fort Hunter-Ligget/Los Padres National Forest, Monterey County, 1993. Mr. Duke participated in the 1993 Cabrillo College Archaeological Field School. As part of the archaeological survey Mr. Duke conducted archaeological survey on the Los Padres National Forest and a portion of Fort Hunter-Ligget.

Pfeiffer State Beach, Monterey County, 1994. Mr. Duke was a Teaching Assistant for the Cabrillo College Archaeological Field School for the summer of 1994.

Other Projects
Stadium Arco Station, San Diego, 2003-04
Cingular/PBMS, ~2,000 Facilities, Southern Calif., Nevada, and Arizona, 1997-2001
AT&T Wireless, ~1,000 Facilities, Southern California, 1998-2001
Bonita Canyon Sports Park, Newport Beach, 1997
Hicks Canyon Retention Basin, Irvine, CA, 1996
Testing of Phase III, Las Trancas Canyon, Newport Coast, 1995
Data Recovery of Site CA-ORA-64, Newport Beach, 1995

APPENDIX C
Record Search Results (CONFIDENTIAL)

ARCHAEOLOGICAL RESOURCE MANAGEMENT CORP.
2918 HASTER STREET
GARDEN GROVE, CALIFORNIA 92640
(714) 750-0874

19-001109

LAn-1109

MAPPED

ARCHAEOLOGICAL SITE SURVEY RECORD

USGS 7½' Topo, Glendora and

1. Site LAn-1109 2. Map San Dimas Quads (projected) 3. County Los Angeles

4. Twp. 1 N Range 9 W : NW ¼ of SW ¼ of Section 33

5. Location on the westernmost knoll of a series of three knolls at the north eastern edge of the South Hills, in Glendora

U.T.M.: 11/422880/3776160 ✓ 6. On contour elevation 1040'

7. Previous designations for site 40293#1

8. Owner _____ 9. Address _____

10. Slope a) degrees _____ b) direction to north and south

11. Description of Site sparse lithic scatter

12. Area 36 x 12 meters 13. Depth not known 14. Height N/A

15. Vegetation grass, scrub oak, toyon 16. Nearest water East Branch of Big Dalton Wash 300 meters north

17. Soil of site decomposing rock 18. Surrounding soil type same

19. Previous excavation none known

20. Cultivation none 21. Erosion yes,

22. Buildings, roads, etc. Beaver Brook Lane is 100 meters west

23. Artifacts/Ecofacts large flake tool, core, scraper-plane, hammerstone, flakes

23a Housepits none observed 23b Petroglyphs none observed

23c Others NOTE: only artifacts made from volcanics differing from the on-site outcropping were noted.1 schist fragment(with no grinding surface present) was also noted.

24. Features none observed

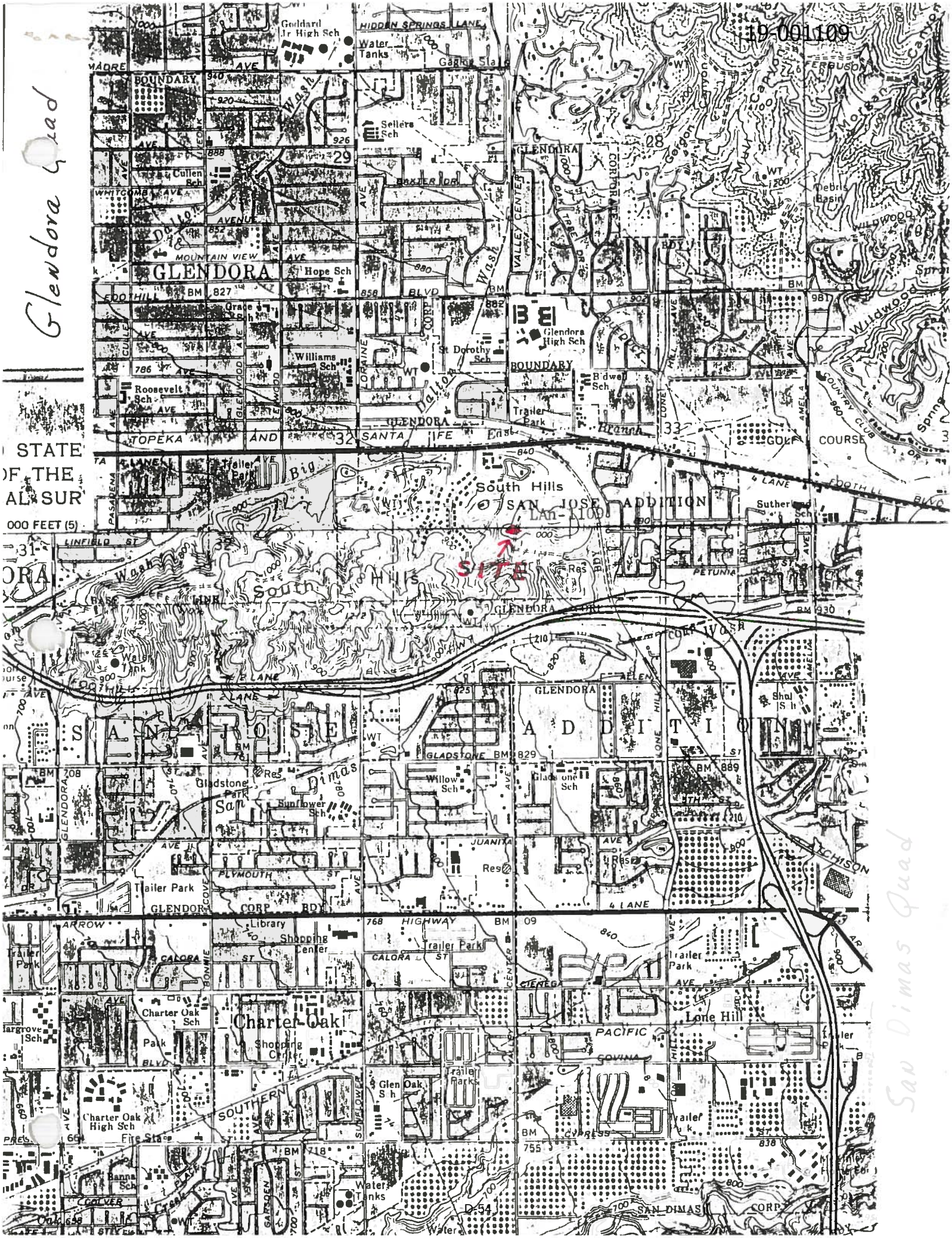
25. Burials none observed

26. Remarks _____

Survey for: Municipal Engineering Consultants, Inc. on Tentative Tract 40293, City of Glendora

28. _____ 29. Sketch Map yes

30. Date 3/31/81 31. Recorded by A. Schroth, K. Del Charia 32. Photos: no


19-001109
Glendora Quad
SITE
GLENDORA
SOUTH HILLS
SAN JOSE ADDITION
SAN DIMAS
CHARTER OAK
LONE HILL
Goddard Jr High Sch
Sellers Sch
Cullen Sch
Hope Sch
Grace Sch
Williams Sch
Roosevelt Sch
Glendora High Sch
St Dorothy Sch
Bidwell Sch
Sutherland Sch
Gladstone Park
Sunflower Sch
Willow Sch
Glad one Sch
Shoal Sch
Library
Shopping Center
Charter Oak Sch
Charter Oak Park
Charter Oak High Sch
Fire Sta
Glen Oak Sch
Banna Sch
Water Tanks
Trailer Park
Golf Course
Big Dalton Wash
South Hills Wash
Gordon Mawby Canyon
Morris Canyon
Debris Basin
Wildwood Spring
HIDDEN SPRINGS LANE
BOUNDARY
WHITCOMB AVE
MOUNTAIN VIEW AVE
FOOTHILL BLVD
TOPEKA AND SANTA FE East
BAXTER ROAD
VALLEY CENTER
CORPORATE
OAK TREE DR
WILDWOOD
COUNTRY CLUB DR
LINFIELD ST
BASE LINE
4 LANE
GLADSTONE
JUANITA
PLYMOUTH ST
ARROW HIGHWAY
CALORA ST
PACIFIC
GOVINA
SOUTHERN
SUNFLOWER
GARDEN
COLVER
SAN DIMAS
PETUNIA
ADDITION
Res
BM 827
BM 882
BM 829
BM 889
BM 930
BM 718
BM 755
D-54

ORHP-E-94-001

P36-007694
SBR-7694H

NPS Form 10-900
(Rev. 10-90)

OMB No. 1024-0018
Page 1

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES REGISTRATION FORM

RECEIVED
JAN 14 2000
OHP

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Boulder Dam - Los Angeles 287.5 kV Transmission Line

other names/site number Los Angeles Department of Water and Power Boulder Lines 1 and 2

2. Location

street & number _____ ☐ not for publication

city or town _____ ☒ vicinity

state Nevada/California code 003; 071; 037 county Clark Co., NV / San Bernardino Co., CA / Los Angeles Co., CA code _____ zip code _____

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this ☐ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ☐ meets ☐ does not meet the National Register Criteria. I recommend that this property be considered significant ☐ nationally ☐ statewide ☐ locally. (☐ See continuation sheet for additional comments.)

_____ _____
Signature of certifying official Date

_____
State or Federal agency and bureau

In my opinion, the property ☒ meets ☐ does not meet the National Register criteria. (☐ See continuation sheet for additional comments.)

Daniel Abeyta, acting SHPO 6/22/00
Signature of commenting or other official Date

California Office of Historic Preservation
State or Federal agency and bureau

4. National Park Service Certification

I hereby certify that this property is:	Signature of the Keeper	Date of Action
☐ entered in the National Register. ☐ See continuation sheet.		
☐ determined eligible for the National Register. ☐ See continuation sheet.		
☐ determined not eligible for the National Register.		
☐ removed from the National Register.		
☐ other (explain): _____		

5. Classification

Ownership of Property (Check as many boxes as apply)

- ☐ private
- ☒ public-local
- ☐ public-State
- ☒ public-Federal

Category of Property (Check only one box)

- ☐ building(s)
- ☒ district
- ☐ site
- ☐ structure
- ☐ object

Number of Resources within Property

Contributing	Noncontributing	
2		buildings
		sites
7	1	structures
		objects
9	1	Total

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing.)

N/A

Number of contributing resources previously in the National Register

6. Function or Use

Historic Functions
(Enter categories from instructions)

Cat: Industry/Processing/Extraction — Sub: Energy Facility - Transmission Line

Current Functions
(Enter categories from instructions)

Cat: Industry/Processing/Extraction — Sub: Energy Facility - Transmission Line

7. Description

Architectural Classification
(Enter categories from instructions)

No style

Materials
(Enter categories from instructions)

foundation Concrete
roof N/A
walls N/A
other Towers - steel

Narrative Description
(Describe the historic and current condition of the property on one or more continuation sheets.)

8. Statement of Significance

Applicable National Register Criteria (Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

☒ **A** Property is associated with events that have made a significant contribution to the broad patterns of our history.

☐ **B** Property is associated with the lives of persons significant in our past.

☒ **C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

☐ **D** Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations (Mark "X" in all the boxes that apply.)

☐ **A** owned by a religious institution or used for religious purposes.

☐ **B** removed from its original location.

☐ **C** a birthplace or a grave.

☐ **D** a cemetery.

☐ **E** a reconstructed building, object,or structure.

☐ **F** a commemorative property.

☐ **G** less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance
(Enter categories from instructions.)

Engineering

Period of Significance

1936-1953

Significant Dates

1936 – Completion of Construction

1953 – Emphasis switches from hydroelectric power to steam generated power

Significant Person
(Complete if Criterion B is marked above)

N/A

Cultural Affiliation

N/A

Architect/Builder

Scattergood, E.F., Chief Electrical Engineer, Los Angeles Department of Water and Power

Narrative Statement of Significance (Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

Bibliography
(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS):

- ☐ preliminary determination of individual listing (36 CFR 67) has been requested
- ☐ previously listed in the National Register
- ☐ previously determined eligible by the National Register
- ☐ designated a National Historic Landmark
- ☐ recorded by Historic American Buildings Survey # _____
- ☐ recorded by Historic American Engineering Record # _____

Primary Location of Additional Data:

- ☐ State Historic Preservation Office
- ☐ Other State agency
- ☐ Federal agency
- ☒ Local government
- ☐ University
- ☐ Other

Name of repository:

Los Angeles Dept. of Water and Power Archives

10. Geographical Data

Acreage of Property 11,945

UTM References
(Place additional UTM references on a continuation sheet)

	Zone	Easting	Northing
1			
2			
3			
4			

☒ See continuation sheet.

Verbal Boundary Description
(Describe the boundaries of the property on a continuation sheet.) ☒ See continuation sheet.

Boundary Justification
(Explain why the boundaries were selected on a continuation sheet.) ☒ See continuation sheet.

11. Form Prepared By

name/title Stephen Van Wormer and Christy Dolan

organization KEA Environmental date August 2, 1999

street & number 1420 Kettner Blvd. Suite 620 telephone (619) 233-1454

city or town San Diego state California
zip code 92101

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps
A USGS map (7.5 or 15 minute series) indicating the property's location.
A sketch map for historic districts and properties having large acreage or numerous resources.

Photographs
Representative **black and white photographs** of the property.

Additional items
(Check with the SHPO or FPO for any additional items.)

Property Owner

(Complete this item at the request of the SHPO or FPO.)

name _____

street & number _____ telephone _____

city or town _____ state _____ zip code _____

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Project (1024-0018), Washington, DC 20503.

NPS Form 10-900
(Rev. 10-90)

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

SECTION 7

Boulder Dam - Los Angeles 287.5 kV Transmission Line
Clark County, Nevada
San Bernardino County, California
Los Angeles County, California

NARRATIVE DESCRIPTION

Summary

The Boulder Dam - Los Angeles 287.5 kV Transmission Line consisted of two parallel electrical transmission circuits, carried on two sets of steel lattice towers, originally designated North and South and then Boulder Lines 1 and 2 (Plate 1). Each was made up of three conductor hollow copper cables that conveyed three-phase 60 cycle electric power from the step-up transformer located at Hoover (formerly Boulder) Dam on the Nevada bank of the Colorado River, to a receiving station on Century Boulevard at Watts in Los Angeles (Map 1) (Scattergood 1935a, 1935b; Soifer 1986; Powers 1993). As a result of modifications, the circuits have been divided into smaller sections that are presently identified as Mead-Victorville 1, McCullough-Victorville 2, and Victorville-Century 1, and Victorville-Century 2 (Figure 1). The McCullough-Victorville 2 segment conductors have been replaced and upgraded to 500 kV. The property begins at Hoover Dam (Map 2) crosses a variety of terrain for approximately 270 miles. About 200 miles, including the switching stations at Silver Lake and Victorville (Maps 3 and 4), lie in the Mojave Desert of Nevada and California. The remainder crosses the coast peninsular ranges in the area of Cajon Pass and Lytle Creek and then passes over the coastal plain of the Los Angeles Basin. Constructed by the Los Angeles Department of Power and Water between 1933 and 1936, the Boulder Dam - Los Angeles 287.5 kV Transmission Line represents a pinnacle of technological achievement in the development of point to point hydroelectric power transmission, and delivered electrical power that made possible the development of the City of Los Angeles from the mid-1930s through the 1940s. The line originally consisted of six components: (1) the two circuits of three conductor cables each along with the towers that supported them, (2) the access road, (3 and 4) two switching stations, one at Silver Lake and one at Victorville in the Mojave Desert, and (5 and 6) the two line termination stations (Boulder Switchyard and Century Receiving Station).

Location

The line passes through a variety of terrain along its approximate 270-mile route. From the step-up transformer at Hoover Dam (Boulder Switchyard), the two parallel lines of single circuit towers follow a southwest course over mountainous desert terrain for about 60 miles, crossing passes at elevations of 4,862, 4,419, and 3,809 feet above mean sea level (AMSL) (Powers 1993:100). They continue in the same direction across 165 miles of desert consisting of hilly terrain separated by a series of flat basins with elevations ranging between 2,000 and 3,000 feet AMSL (Plates 2-7). After leaving the desert, the lines cross the coastal peninsular range through Cajon Pass at 4,400 feet AMSL and drops to the bed of Lytle Creek at 1,800 feet (Plate 8). The lines then continue in a westerly direction through foothills at the base of the mountains for approximately 15 miles at an elevation of around 2,400 feet AMSL (Plate 9). After joining onto a single row of double circuit towers near the City of Upland, California, (Map 5) the line descends onto the coastal plain of the Los Angeles Basin at an elevation of around 1,500 feet and runs southwesterly for about 40 miles to the receiving station at Watts where the elevation is 120 feet AMSL (Plates 10-13; Map 6). Over most of the route the terrain is still largely undeveloped. The last 40 miles across the Los Angeles Basin, however, were primarily agricultural acreage when construction occurred and are now densely urbanized.

Description

The Boulder - Los Angeles 287.5 kV Transmission Line originally began at the step-up transformer located at the Hoover Dam on the Nevada bank of the Colorado River, where the current generated at the dam power house at 16,320 volts is converted to 287,500 volts (287.5 kV). As shown on Figure 2, power is transmitted to Los Angeles on two parallel three-phase electric transmission circuits each consisting of three conductors. Because of voltage losses during transmission the current arrives at the receiving station on Century Boulevard in Watts at 275 kV, where it is stepped down for local distribution. As originally designed, the line was divided into three sections approximately 90 miles long by switching stations constructed at Silver Lake and Victorville in California's Mojave Desert (Figure 2). The line can be divided into four basic components that will be described in more detail: (1) towers and lightning protection, (2) conductor and associated hardware, (3) transformer and switching stations, and (4) access road.

Towers

The eastern 230 miles, from the step up transformer at Hoover Dam to a point near Upland, California consists of two parallel lines of steel single circuit towers (Figure 2 and Plate 10). A distance of 265 feet separates the two lines of towers. The remaining approximately 40 miles is a single line of double circuit towers. In the single circuit section, towers along each line are placed about every 1,000 feet. In the double circuit section, towers are about 900 feet apart. Originally, a total of 2,695 steel towers were required to carry 1,596 miles of conductor. The lines and their associated towers have been treated as three structures. One structure carries Boulder Line 1 on single circuit towers. The second structure carries Boulder Line 2 on single circuit towers. The third structure begins where Boulder lines 1 and 2 converge and are carried to Century Receiving Station on double circuit towers.

At the time of construction, the single circuit bridge type towers designed for the lines were unlike any other. These towers utilized a skewed base configuration that provided greater strength yet were constructed of the same amount of steel as conventional designs. The towers have an overall "Y" configuration and were made to carry the three conductor cables for each circuit on a cross arm in a flat horizontal configuration. They measure 90 feet from the ground to the top of the cross arm supporting the conductor and 109 feet to the top of the tower. The horizontal spacing between the conductors is 30.0 feet. Towers were designed so height could be adjusted according to changes in terrain. Where additional height was needed, any leg could be extended in 10 foot increments up to 40 feet. The single circuit towers were built of high tensile steel to withstand twice the calculated load they were expected to carry. They could maintain the weight of the conductor covered with .5 inches of ice combined with wind pressure of 8 pounds per square foot (Scattergood 1935a; 1935b; Powers 1993). In 1980, modifications occurred on the Boulder 2 line between the McCullough Switching Station that had been built between 1970 and 1973 and the Victorville Switching Station. Original conductor was replaced with two aluminum cable steel reinforced (ACSR) conductors, each approximately 1.7 inches in diameter and tower cross arms were rebuilt with standardized kits to provide additional clearance and support the additional weight of the new conductor. This portion of the line was redesignated McCullough -Victorville 2 and the voltage increased from 287.5 kV to 500 kV (Powers 1993:101).

Double circuit towers were designed to carry each circuit of three conductor cables in a vertical plane on each side of the tower. The distance between the circuits is 40 feet and the vertical spacing between conductors is 24 feet. The distance from the ground to the bottom cross arm typically is 75 feet and to the top of the tower 144 feet (Figure 3B). The double circuit towers were based on conventional designs in use at the time of construction and were constructed of galvanized steel. Height could be extended by adding 10 foot extensions to the base in a similar manner as the single circuit towers. They could withstand a windload of 12 pounds per square inch with no ice (Scattergood 1935a; Powers 1993:102).

For both the single and double circuit towers five types were designed: standard suspension, angle suspension, dead end, dead end angle, and transposition towers (Figure 4 and 5). Dead end towers hold the conductor taut and can withstand substantial transverse and longitudinal loading. Standard suspension towers simply provide a support from which the conductor hangs and are used for straight stretches of line between dead end towers. Angle suspension towers are used where small line angles occur, but the transverse tower loading is not so great that a suspension tower cannot be used. Angle dead end towers are used for larger line angles. Dead end, standard suspension, angle suspension, and dead end angle towers all have the same general appearance within the single and double circuit tower classifications. The transposition tower is used to alternate the relative position of the three conductors at regular intervals along the line in order to prevent the build up of inductive currents that can unbalance phase voltages and induce attendant electromotive forces that can interfere with radio signals and nearby communication line transmissions (Taylor 1994; Powers 1993:98). Transposition towers were originally located approximately every 30 miles along the line. For the single circuit section transposition towers have the same general appearance as all other tower types. In the double circuit portion, transposition towers exhibit two extended cross arms. One is located above and the other below the three standard cross arms that convey the circuit conductors.

Standard single circuit suspension towers were designed to function with one broken conductor and one broken ground wire simultaneously in the same span and on the same side of the tower under maximum tension. Single circuit dead end towers could withstand three broken conductors and two broken ground wires under the same circumstances. Double circuit suspension towers could withstand one broken conductor and one broken ground wire on the same side. Angle towers were designed to withstand three broken conductors and two ground wires, and dead end towers would remain undamaged with breakage of all six conductors and both ground wires (Scattergood 1935a; Powers 1993:102).

Protection from lightning was also of primary consideration when designing the line. The Mojave Desert was considered an area of higher potential for lightning strikes than the coastal section west of Cajon Pass. This was the reason for separating the two circuits from each other on two parallel lines of steel towers (Garman 1934:5). Overhead ground wires and underground counterpoise were also used for lightning protection. Each tower was designed to carry two ground wires 32 feet above the conductor. On the single circuit towers, 1/2-inch diameter galvanized steel wire was used. The double circuit towers near the coast had 7/16-inch diameter copper-coated steel cable ground wires. In addition, an underground counterpoise system of four parallel 1/4 inch soft copper wires 135 feet apart and buried 3 feet deep was installed along the entire length of the single circuit tower section. At each tower the counterpoise wires are crossed and interconnected. Due to the lower lightning frequency in the double circuit tower section two continuous counterpoise wires 135 feet apart were considered adequate (Powers 1993; Scattergood 1935a; 1935b).

Conductor and Related Hardware

The conductor for the Boulder lines was designed to be light weight and still able to operate at a high voltage with a minimum of corona loss. As voltage increases the amount of metal necessary to carry the current decreases. One of the problems of transmitting high voltage, however, is that it causes a glowing or splitting of electricity at the conductor surface called corona, which is a direct loss of electricity into the air and a waste of power. Ironically, corona loss can be reduced by increasing the diameter of the cable. The resulting weight increase, however, caused greater structural loading on the towers and necessitated heavier towers (Schema 1983; Scattergood 1935a). The conductor required for the Boulder Line needed to be of the lightest weight possible but still possess a large enough diameter to reduce corona loss. Known as HH (or Heddernheim) Cable, the conductor selected had been developed in Germany in 1927, and was manufactured in the United States by General Cable Corporation, who had obtained the rights to manufacture it in the U.S. in 1933. Built in the form of a hollow flexible copper tube 1.4 inches in diameter, it consisted of spiraling segments interconnected by tongue and groove joints that provided strength, lightness of weight and a sufficient diameter (Figure 6A) (General Cable Corporation 1935; Garman 1934). In addition to the conductor cable, a new "free center" clamp was designed for use at insulator

attachment points and conductor to conductor connections. The clamp was designed so that the bending of the conductor resulting from vibration is not localized, but evenly distributed, thereby avoiding any concentration of stress on any particular portion of the conductor cable. The clamp consisted of "an outer shell or housing that covers a shell that supports two saddles in which the cable ends ride" (Figures 6B and C) (Scattergood 1935a:11).

Insulator design was another important aspect of the Boulder transmission lines. Research determined a need to increase insulator string length over that used for conventional 220,000 volt systems. The ability of the insulators to function on the foggy California coast after accumulating layers of dust during the dry summers was also studied. The design adopted included 24 10-inch diameter ceramic insulators spaced five inches apart for a total length of 120 inches (10 feet) (Plate 14). Twenty-two 10.5-inch diameter insulators six inches apart for a total length of 11 feet were used for higher than average strain situations at dead end and angle dead end towers (Scattergood 1935a; Powers 1993). As previously mentioned, in 1980 original conductor on the segment of the Boulder 2 line between McCullough and Victorville Switching Stations was replaced with two aluminum cable steel reinforced conductor and new insulators and hardware.

Switching and Transformer Stations

Studies conducted in the late 1920s and early 1930s indicated that the most efficient design for dealing with electrical faults (short circuits, groundings, and other problems) was to separate the line into three segments with two switching stations approximately 90 miles apart (Scattergood 1935a; 1935b). This resulted in construction of switching stations at Silver Lake (near Baker) and Victorville, California (Plates 15-20). The switching stations automatically isolated sections of line in case of short circuits or grounding failures, allowed sections to be isolated for maintenance or repair, and allowed the load from any circuit to be added or transferred to the other (Powers 1993; Scattergood 1935a; 1935b). Switching stations contained circuit breakers for each incoming and outgoing circuit. They were designed to accommodate Boulder Lines 1 and 2 in addition to a third single circuit line planned for the future. The third line (Boulder 3) was completed in 1939 (Powers 1993:97).

Between 1970 and 1973, modifications occurred to the Boulder line affecting the switching stations. Silver Lake was removed from service and a new station constructed 65 miles northeast near McCullough Pass, Nevada. A new switching station was also built near the original Victorville Switching Station. In 1980, the segment of Boulder Line 2 between the old Victorville Switching Station and McCullough Switching Station was upgraded to 500 kV. This section was renamed McCullough-Victorville 2. The new conductor was routed through the old Victorville Switching Station and then extended to the new Victorville Switching Station for switching and circuit breaker connections (Powers 1993: 101; Transmission Design Manual 1991).

Additional changes were made after 1986, when the original Boulder Dam power contracts ended and Western Area Power Administration (WAPA) took over responsibility for delivering electricity to LADWP and other major power suppliers. As illustrated in Figure 7, Boulder Lines 1, 2, and 3 were diverted to Mead Switching Station, which is operated by WAPA. WAPA also operates the transmission lines from Boulder Dam to Mead. As described later, this change resulted in the alteration of a few of the original towers near Mead but has little affected the overall integrity of the Boulder lines.

The transformers are located at the beginning and end of the transmission line. The step-up transformer, near the dam, originally raised the voltage to 287.5 kV (Plate 21). The step-down transformer at the receiving station on Century Boulevard in Los Angeles reduces the voltage to a lower voltage for distribution throughout the city (Plate 22). When they were built, lightning protection was of concern for the substations just as it had been for the transmission lines. A counterpoise grid was installed around each station and overhead ground wires were suspended from tall steel lattice structures.

Over the years all circuit breakers and transformers in the Boulder, Victorville, and Century stations have been replaced through routine maintenance and system upgrading (Powers 1993; Falconett 1994). This upgraded equipment does not define the character of the district. The Boulder, Victorville, and Century stations do contain original switch racks, counterpoise, and overhead ground wires as well as original buildings, all of which help define the character of the district. New switching stations have been built at McCullough and Victorville and do not contribute to the district. The Control house building at the Century Receiving Station was built in 1926 as a two story, concrete, reserved art deco style structure with a flat roof. It measures approximately 40 by 120 feet. Four large pillars incorporated into the front (east) facade frame the main entrance (Plate 13). Ten decorative buttresses support the west facade of the building. The south end of this facade has a crane door on the second story while the north end has a large metal rolling door. Centered on this facade is a single door. Four single 20-pane windows are located on the south side of the building, two on the second floor and two on the first. A four-pane section opens on each window for ventilation. The east facade contains two sets of six windows placed symmetrically on either side of the front door. They are the same type as those on the south facade. The north side of the building contains five of these windows, three on the second floor and two on the first floor. A third window completes the bottom row on the west end. This window is a single eight-pane window with a single door beneath it. A full basement lies under the building.

Victorville-Century Line 1 enters the yard from Tower 267D1 and is carried onto Rack F on the north side of the building. It goes through a ground connect and into Bank F, which contains six transformers that drop the power from 287.5 kV to 138 kV. The line goes through two sets of disconnects, one in Bus 1 and the other in Bus 2. Victorville-Century Line 2 follows the same pattern but from Tower 267D2 to Rack G and Bank G. Both lines travel south across the yard to Banks E and H which are capable of boosting the power to 230 kV. From there, the power is distributed to Gramercy and Wilmington. Wiring for the receiving station is carried underground in a series of tunnels that were excavated in 1926. Access to these tunnels can be found either in the basement of the Control house or through stairways found next to skylights throughout the yard area (Plates23-25).

In the southwest corner of the yard is an oil house. Constructed in 1926, this single story building is approximately 20 by 21 feet and has an eight foot ceiling (Plates 26-28). It is constructed of poured concrete with a flat roof that has three vents. A ground floor salt shoot, used to soften the water for the condenser, is centered on the exterior of the west facade. Single 16-pane windows are centered on the east and west sides. A four-pane section opens for ventilation. The only entrance to the ground floor is a large single door, centered on the north side. An exterior stairway on the northeast corner of the building leads to the basement and concrete steps continue to the basement floor. The basement is approximately 16 feet deep. A large corrugated metal plate covers oil tanks adjacent to the southeast corner of the building. The building is no longer used as an oil house. The circuit breakers, cooled by oil, are now serviced by a mobile unit.

The building at Victorville switching station is a single story, stuccoed, pueblo revival style structure with a flat roof (Plate 19). It measures approximately 40 by 60 feet. The building exhibits false vigas around the roof line. Multi-paned windows and an ornate wooden front door are located on the front. The rear facade has two single doors with concrete steps leading up to them. The north end of this facade has a louvered vent and the south end has a single six-pane window. A metal rolling door allows access to the pump house and storage area of the building on the north end. The south end of the building contains the main operating room. A full basement lies beneath this building. It contains racks of 12-volt batteries connected in series for emergency power supply to ensure continued operation of the switching gear during a power outage. There are also secondary transformers in the basement which can be used to bring the voltage down in order to power the station. These are no longer in use.

The lines that come into this station are Boulder-Victorville Line 1, and the Boulder-Victorville Line 2. The McCullough-Victorville line (formerly the Boulder-Victorville Line 3) passes over the station to connect with the new Victorville switching

station (built in 1968), which is outside the verbal boundary description to the northwest. Line 1 comes from a tower on the east side of the switching yard through wave traps to racks (Plate 29). From there it is sent through a series of disconnects and transformers and the voltage is reduced from 287 kV to 4.8 kV. The Boulder-Victorville Line 2 parallels Line 1. A static tower is located at each corner of the yard. Just south of the yard, outside of the verbal boundary description, is a small lattice tower that carries the line that was built to provide power during construction (Plate 30).

The Silver Lake switching station is completely abandoned. Although it retains a portion of one switch rack and lattice structure for overhead ground wires, it does not retain sufficient integrity to contribute to the significance of the district. Both Silver Lake and the Victorville station used to have residential compounds built by LADWP for the remote station employees. These are outside of the verbal boundary description.

Access Road

The approximate 200-mile single lane dirt road through the single circuit section was built as a supply road to transport men and materials over the vast stretches of uninhabited terrain through which most of the line was built. It measures an average of 15 feet wide and is maintained on a seasonal basis by an outside contractor. It has been maintained since completion as an access road, paralleling the two rows of towers through Lytle Creek, Cajon Pass, and across the Mojave Desert (Plate 31).

Contributing and Non-contributing Elements

The Boulder Dam - Los Angeles 287.5 kV Transmission Line consists of a total of nine contributing and one non-contributing element. The contributing elements consist of two buildings (the operator's building at the Victorville switching station and the control house and associated oil house at the Century Receiving Station in Los Angeles) and seven structures (the access road, the single circuit towers and line of Boulder Line 1,the single circuit towers and line of Boulder Line 2, the double circuit towers that carry both Boulder Line 1 and 2, the Boulder Dam station, and the yards at both Victorville and Century). The non-contributing elements consist a single structure, the Silver Lake switching station. The Silver Lake station is a non-contributing element because the lines no longer utilize it. Therefore, the footprint has been altered. Several other items were observed, but considered outside the verbal boundary description. These include Boulder Line 3, the new switching stations at Victorville and McCullough, the towers that brought the power during construction, and the former operator's housing at Victorville and Silver Lake.

Although several features of the contributing elements of the line have been replaced or upgraded, the basic footprint, laid out in the 1930s, is still the same. The character defining features include the following eight categories: (1) the HH cable (2) the skewed single circuit towers (3) the route of the line and associated dirt access road (4) the double circuit towers (5) the exterior of the Century building (6) the exterior of the Victorville building (7) the footprint of the stations, and (8) the racks at the stations.

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United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

SECTION 8

Boulder Dam - Los Angeles 287.5 kV Transmission Line
Clark County, Nevada
San Bernardino County, California
Los Angeles County, California

STATEMENT OF SIGNIFICANCE

The Boulder Dam - Los Angeles 287.5 kV Transmission Line is considered eligible under Criterion C for its unique engineering and structural characteristics within the context of development of point to point high power transmission in California between 1890 and 1936. The line represents a high level of achievement in point to point high voltage power transmission that remained unsurpassed for many years. In addition, several design components are unique to this transmission line. Secondarily, the line is considered significant under Criterion A for (1) its association with the construction of Boulder Dam, a National Historic Landmark and water reclamation and irrigation project of exceptional importance to the American southwest, and (2) the industrial, economic, and urban development that occurred in metropolitan Los Angeles from the mid-1930s through the 1940s. Without Boulder Dam power the development of modern Los Angeles during these years could not have taken place.

Period of Significance

The period of significance of the Boulder Dam - Los Angeles 287.5 kV Transmission Line is considered to be 1936 to 1953. During this time: (1) the line was constructed and (2) the line was the highest voltage point to point transmission line in the world. In 1953, the importance of hydroelectric power in Los Angeles was superceded by steam generated power (LADWP 1954).

Historic Background

The Boulder Dam - Los Angeles 287.5 kV Transmission Line was built by the Los Angeles Department of Water and Power as a system for the transportation of power from the power plant at Boulder (now Hoover) Dam on the Colorado River to a central receiving station in Los Angeles for general distribution and use within the city. The system was designed to reliably deliver 240,000 MW at the receiving station in Los Angeles (Scattergood 1935a:26).

Electrical power delivered by the system was the principal source of power for the City of Los Angeles between 1936 and 1950. Without it the industrial, economic, and urban development that occurred in metropolitan Los Angeles during the 1930s and 1940s could not have taken place. The line represented a major step forward in the art of long distance power transmission and made available technologies that allowed the effective and economical exploitation of water power in other areas (*Electrical West* 1936). Designed to carry power at 275,000 volts across almost 270 miles of desert and mountains, when completed the lines' operating potential at the step up transformer at Boulder Dam was 287,500 volts. At the time this was the highest commercial operating voltage in the world and a pinnacle of achievement in point to point high voltage power transmission (Garman 1934; Scattergood 1935a; 1935b).

Development of Point to Point Transmission

Point to point high tension transmission as opposed to transmission networks or grids, is defined as "the long overland transmission of high power uninterrupted by large capacity distribution and switching stations along the way" (Hughes 1983:262). This type of power transmission is appropriate where the power source is geographically separated from the potential urban-industrial power user. Point to point transmission became vital to the development of California during the early twentieth century and the combination of high voltage and transmission distances of 100 miles or more was a phenomena of that state (Hughes 1983:262). Between 1890 and the mid 1930s, point to point transmission in California reached its greatest development in mileage and voltage culminating with the completion of the Boulder lines in 1936 which achieved a high point with the transmission of power at 287,500 volts and a distance of 270 miles. This pinnacle remained until after World War II when still higher voltages were developed throughout the world (Hughes 1983:262-264; Britannica 1965).

The complete history of point to point transmission in California is quite complex (Hughes 1983:267) and can only be surveyed in this document. The discussion will emphasize representative examples of development.

The incentives to develop long distance transmission lines in California were both economic and geographic. At the end of the nineteenth century, industry in the state depended largely on coal imported from Australia or British Colombia as a source of fuel (Downing 1910). Although the state had ample water resources that could potentially be developed for hydroelectric power, these were largely located in the Sierra Nevada Mountains and separated by hundreds of miles from the heavily settled coast where the power was needed (Hughes 1983:266). By the end of the nineteenth century the potential for the development of hydroelectric power in the Sierra Nevada was recognized and after 1890, more pioneering work on long distance transmission was accomplished in California than anywhere else. By 1910, the state had the greatest mileage of high tension network in the world (Downing 1910).

The first high voltage transmission system was built between Mill Creek and Redlands and conveyed 11,000 volts a distance of 16 miles (Downing 1910). Several other early power plants that represented pioneering efforts in point to point transmission development were located in the Sierras northeast of Sacramento. In the summer of 1895, the Folsom power plant on the American River began transmitting electricity 20 miles to Sacramento. The 11,000 volts of current were conducted through lines carried on 40 foot cedar poles set up in two lines along each side of a country road (Hughes 1983:286-89). Developments on the nearby Yuba River by Eugene de Sabla soon eclipsed the Folsom accomplishment. In 1895, de Salba began operation of his Nevada City power plant. A line transmitted 5,500 volts four miles to the town and nearby mines. In 1899, he completed the Yuba River power plant from which lines conducted 16,000 volts 18 miles to Marysville. In 1898, the Colgate plant on the Yuba River began operation to supply local mines and Sacramento 60 miles away. Lines to Sacramento carried 40,000 volts (Hughes 1983:274-275; Britannica 1965).

In 1901, de Salba and his partner Romulus Colgate began construction of the first line to exceed 100 miles, stretching from the Colgate power plant on the Yuba River to Oakland on San Francisco Bay. The line conveyed 60,000 volts for 140 miles. It consisted of two parallel conductors, one copper and one aluminum, that were carried on cedar poles 25 feet apart. Power arrived at Oakland over the new line on April 27, 1901. Through interconnections with other companies power from the Colgate, Nevada City, and Yuba River hydroelectric plants reached California counties to the north and south of Oakland and San Francisco. Development of point to point transmission had conveyed hydroelectricity from the Sierra Nevada to the state's populated coast in six years (Hughes 1983:274-275; Downing 1910:706).

In the southern part of the state, development of hydroelectric power became part of ongoing attempts to develop an infrastructure for the Los Angeles region that would provide for a population many times greater than local water and power resources could support. In 1897, the San Gabriel Electric Company built a hydroelectric plant at Azusa. The power was

transmitted 25 miles to Los Angeles at 15,000 volts (Woodbury 1914). In 1899, a 30,000 volt, 75 mile line from Santa Ana to Los Angeles was completed. Los Angeles tapped the watershed of the Sierra Nevada in 1905, with the completion of Southern California Edison's Kern River Plant. The transmission line from that source conveyed 60,000 volts 125 miles (Woodbury 1914; Britannica 1965; Hughes 1983:281).

Transmission of higher voltages than 60,000 volts was restricted by limitations of insulator design. All lines developed prior to 1907 consisted of conducting wires supported by single glass or ceramic insulators on steel pins mounted on wooden poles (Britannica 1965; High Tension Transmission Committee 1905). In 1907, E. M. Hewlett and H. W. Buck developed the first suspension insulator, which allowed development of higher voltages (Britannica 1965). Soon lines supported by steel towers and suspension insulators were conveying 100,000 volts and more. By 1911, the Great Western Power Company operated a 100,000 volt line from its Big Bend plant 16 miles north of Oroville to Oakland, California. The Pacific Gas and Electric Company completed its 100,000 volt, 110-mile line from the Drum power plant to Oakland in 1912 (Hughes 1983:280).

Meanwhile, in Southern California, the never ending quest of the Los Angeles region for water and power continued, ultimately resulting in construction of the Boulder line. The Southern Sierra Power Company completed its Bishop to San Bernardino line of 2,000 steel towers traversing 238 miles in 1912. Pacific Light and Power completed a 241 mile, 150,000 volt line from Big Creek to Los Angeles in 1913 (Hughes 1983:281; Woodbury 1914).

The search for sufficient water for the southland also resulted in additional hydroelectric power transmission. As early as 1905, when the population of Los Angeles had reached 160,000, city fathers realized that local water supplies could not provide for a population greater than approximately 350,000 people. Bonds were obtained in 1905 for construction of an aqueduct 250 miles in length to tap water from the Owens River watershed along the eastern slopes of the Sierra Nevada Mountains. Power Plants were installed along the water way at Cottonwood and Division Creek in 1909 (Soifer 1994). Additional bonds were approved in 1910 for construction of hydroelectric power plants along the aqueduct which was completed in 1913 (Scattergood 1935a; 1935b; Cleland 1947). The Bureau of Power and Light, a division of the Los Angeles Department of Water and Power, rapidly expanded hydroelectric production with plants at San Francisquito Canyon in 1917 and 1920, Franklin in 1921, San Fernando in 1922, Big Pine in 1925, and Haiwee in 1927 (Soifer 1994), resulting in a sharp reduction in both domestic and industrial rates (Scattergood 1933; Cleland 1947).

Southern California's rapid growth continued to put pressure on utilities to increase available power supplies. By 1922, Southern California Edison began to upgrade the former 150,000 volt Big Creek lines to 220,000 volts. This was done after extensive laboratory and field tests indicated that the difference between operation of the system at 150,000 and 220,000 volts was a matter only of degree and was feasible with existing technology (Wood 1922). By 1926, Southern California Edison had added a third 220,000 volt line to the Big Creek system (Carlson and Michener 1926).

Development and Construction of the Boulder Lines

The rapid growth of Los Angeles and the surrounding region during the 1920s made it apparent that the power and water possibilities available in the state, including that of the Los Angeles - Owens Valley Aqueduct would soon be exhausted (*Intake* October 1936; Starr 1993). In 1918, Arthur Powell Davis, Chief of the Bureau of Reclamation, had recommended construction of a dam of unprecedented height at Black or Boulder Canyon on the Colorado River 30 miles south of Las Vegas for the development of flood control, the storage of water for irrigation and domestic use, and hydroelectric power. Davis had first suggested this idea in 1902 (*Intake* October 1936). In 1922, O.C. Merrill of the Federal Power Commission noted that although flood control and irrigation were primary concerns in construction of the dam, the cost would be more than the agricultural interests of the Imperial Valley, who would be the primary beneficiaries, could bear. He concluded, therefore, that the Federal Government should undertake the project and recoup its investment by the sale of hydroelectric power that could be produced. Long distance point to point transmission was a crucial element in this scheme since the nearest available

power market was Southern California (Merrill 1922). In 1924, the Reclamation Bureau recommended construction of Boulder Dam (*Intake* October 1936). That same year an election in Los Angeles indicated citizens by a majority of five to one wanted city government to investigate the possibilities of obtaining water and power from the Boulder Canyon Dam.

Careful and exhaustive investigation of the southwest, undertaken by the Los Angeles Department of Water and Power in 1925, showed that the largest block of power at the lowest cost could be obtained through construction of the proposed Boulder Canyon Dam. The project would provide Los Angeles a large permanent supply of low cost power and domestic water for future generations. In addition, the complete utilization of power and water provided by the dam would double the total invested wealth in the southwest and more than double the gross annual output of industry (Scattergood 1935a; 1935b). Studies also showed that through contracts for the provision of power the entire project would pay for itself (*Intake* October 1936).

On the strength of these investigations the Department of Water and Power worked closely with Arthur P. Davis and the Bureau of Reclamation in furthering legislation authorizing the Boulder Canyon project and in furthering appropriations for its construction (Scattergood 1935a; 1935b). In 1924, Los Angeles voters authorized the city to contract with the Federal Government for an allotment of the power Boulder Dam would generate. In addition, civic leaders and technical experts, comprising a joint committee of the Chamber of Commerce and the Department of Water and Power endorsed the Bureau of Reclamation's plan and recommended that in the event that the Government did not proceed with the Colorado River Plan the City of Los Angeles should undertake to finance the project on its own. The Federal Government authorized construction of Boulder Dam, however, by passing the Swing- Johnson Bill, signed by President Coolidge on December 21, 1928. The commitment of the City of Los Angeles to purchase power provided by the dam, thereby making the project self financing, was instrumental in convincing Congress to pass the bill and the financially conservative President Coolidge to sign it (*Intake* October 1936; Desmond 1934; Scattergood 1935a:26; Starr 1993).

In April 1930, a contract was signed between the City of Los Angeles and the Federal government for a share of the Boulder Canyon power. By 1934, Los Angeles together with the municipalities of Glendale, Pasadena, and Burbank contracted for 19 percent of the firm energy to be developed at the power plant. Firm energy is defined as the amount of power that can be developed reliably and continuously year in and year out (*Intake* October 1936; Garman 1934:1).

In addition, Los Angeles contracted for another 90,000,000 kilowatt hours that were to be made available by increasing the height of the dam. The city also negotiated to take half of the firm power allotted to the states of Nevada and Arizona if not used by those states. The Department of Water and Power, in addition to its own allocation, was made the generating agent for the power allocated to the states of Arizona and Nevada as well as the Metropolitan Water District of Southern California and the municipalities of Glendale, Pasadena, and Burbank (Garman 1934:1). In November 1932, a charter amendment was approved by the voters of Los Angeles that allowed the Power Bureau to borrow $22,800,000 from the Reconstruction Finance Corporation to construct the Boulder transmission line. The loan was granted in February 1933, and was to be repaid in 20 years with interest (*Intake* October 1936:6; Scattergood 1935b:26).

In the meantime, research was undertaken to design the power delivery system. The object was to provide reliable power for the lowest possible cost. Transmission line capacities were investigated for systems ranging from 220,000 volt to 330,000 volts. Studies indicated two circuits of 275,000 volts had approximately the same capacity as three circuits of 220,000 and could be built and operated for considerably less. This led to the decision to develop a 275,000 volt line (Garman 1934; Scattergood 1935a:5).

Planning and construction of a 275,000 volt system required pioneering research. Since 1923, transmission of voltage higher than 220,000 volts had been considered impractical due to limitations of generator, circuit breaker, and transformer design, and corona, or high current losses (Schema 1983). It was therefore necessary to develop an entirely new system from the

generators in the power house to the transformers in the receiving station at Los Angeles. Development resulted in major contributions to the techniques of power transmission and set a new standard for design of long distance heavy duty transmission circuits. Leading the development program was Los Angeles Power and Water Chief Electrical Engineer E. F. Scattergood. In designing the line he stated that the Bureau would not "construct anything that is not far in advance of the standards of the moment, and which, at the same time, is not part of the ultimate plan" (Scattergood 1933).

As a result of Scattergood's leadership research work was conducted over a period of three years at the Harris J. Ryan High Voltage Laboratory at Stanford University, and on the part of leading manufacturers of electrical machinery, cables, and insulators. This research resulted in new technologies used for the first time in the Boulder power transmission system that included: copper conductor suitable for 275,000 volts, clamps and hardware designed to support the new conductor (see Plate 14 and Figure 8), new transmission tower designs, oil circuit breakers for 287 kV and 2,500,000 kVA interrupting duty with necessary relays, that could clear any faulty section of the transmission line in approximately 1/10 second from the instant of a short circuit, and main generating units in the power plant with only 17.5 percent inherent reactance to maintain system voltage at required higher levels (Scattergood 1935a; 1935b:27; Carroll et al. 1933; Carroll and Cozzens 1933).

These new designs made possible construction of the system for approximately $30,000,000. Estimated costs of construction using the best transmission equipment available prior to these developments was approximately $42,000,000, and would have provided less flexibility and reliability as well as reduced voltage (Scattergood 1935a:27).

The final plans for the line required 2,695 steel towers that would run for a length of 266 miles and carry 1,596 miles of copper conductor. Construction began in June 1933. Preliminary work was extremely difficult due to the rugged and uninhabited terrain over which most of the line ran. For the transportation of men and materials along the route, 200 miles of roads were surveyed and built across steep hills and mountains, deep ravines, and drifting desert sand. After completion of the line these continued in use as maintenance access roads (Desmond 1934). With the road building program seven construction camps were built between Cajon Pass and the dam site. They were located approximately 30 miles apart at Cozy Dell, Victorville, Harvard, Kingston Valley, and Silver Lake, in California, and Jean and Boulder City in Nevada. General headquarters for all field operations was at Yermo, California, and a railroad depot construction point near Barstow, California. Construction camps for the double-circuit portion were located at San Dimas, Baldwin Park, and Montebello, with headquarters at San Dimas (*Intake* July 1933).

Work progressed rapidly. In December, the first tower was completed and, by January 1934, the project was 12 percent completed with 60 standing towers and foundations set for 428 towers (Plate 32). Cable stringing was scheduled to start in April 1934 and tower erection to be completed by June 1935 (*Intake* January 1934). In erecting the towers a regular routine was followed. First the four footings were dug. The three foot in diameter by seven foot deep holes were excavated with an earth boring machine, except in mountains areas where bedrock had to be removed by hand. Tower stubs were placed in the holes in a bed of reinforced concrete. Tower assembly was conducted by three separate gangs. First the assembly gang constructed the towers into predetermined units. Next came the erectors who set up the towers and installed all bolts, followed by the checking gang which checked all tower parts, tightened bolts, installed locknuts, and turned in a final erection report (*Intake* October 1936). Work did not proceed according to the original schedule. Cable stringing did not begin until a year after the projected date in April 1935 (*Intake* April 1935). By this time, however, all work was rapidly nearing completion. On October 24th, the last single circuit tower was completed and by November work had begun on the final 40 miles of double circuit towers (*Intake* November 1935). In December, the construction camps in the desert were dismantled, leaving "only the trim, latticed steel towers and the curving spans of copper cables" (*Intake* December 1935). By September 1936, cable stringing had been completed (*Intake* September 1936). On October 9, 1936, amidst a demonstration of pageantry that had "never been equaled in the history of the city," the Boulder power transmission line became operational (*Intake* October 1936). Miss Elizabeth Scattergood pressed a golden key that released the first output of electrical power 266 miles away at Boulder Dam and lighted a flaming arc 60 feet in the air that bathed the civic center in brilliance. Sixteen huge

searchlights on top of City Hall then lit up the sky while smaller arcs flared on Broadway. Electrical power from Boulder Dam had arrived in Los Angeles (Soifer 1986).

Integrity

Integrity is the ability of a property to convey its historic significance. The Boulder Dam - Los Angeles 287.5 kV Transmission Line was evaluated for the seven aspects of integrity identified for the National Register: location, design, setting, materials, workmanship, feeling, and association (National Park Service 1991:44).

Location

Location is defined as "the place where the historic property was constructed or the place where the event occurred" (National Park Service 1991:44). With the exception of occasional tower relocations the Boulder - Los Angeles 287.5 kV Transmission Line retains a high degree of integrity of location. Overall, the line occupies the exact same location it did when constructed. Some towers have been moved, but the effect on the overall location of the line has been negligible and none of the relocations have resulted in a rerouting of major segments. Relocations have mostly occurred in the double circuit portion where construction of urban infrastructure including freeways and flood control dams have necessitated minor right of way adjustments. Specific instances include:

1942 - An undetermined number of towers were relocated for construction of Santa Fe Dam.

1952- Six towers were relocated for construction of Whittier Narrows Flood Control Dam.

1953 - Two towers were relocated for construction of San Antonio Dam.

1962 - An undetermined number of towers were relocated for crossing the San Gabriel Freeway.

1964 - One tower was relocated for construction of the Pomona Freeway.

1966 - Five towers were relocated for construction of the Foothill Freeway.

1968 - Several towers were replaced near Mead Switching Station.

1969 - Approximately 1 mile of line relocated for rerouting at Rosemead Boulevard.

1974 - Two towers were replaced on either side of Live Oak Reservoir.

In the single circuit section only two relocations have occurred. In 1969, one tower was relocated for the California aqueduct and in 1980 two towers were relocated at the Mojave River Crossing (Transmission Design Manual 1991).

Design

Design is defined as the "combination of elements that create the form, plan, space, structure, and style of a property." It results from conscious decisions made during the original conception and planning of the property (National Park Service 1991:44-45). The design of the Boulder Dam - Los Angeles 287.5 kV Transmission line was conceived primarily to assure reliability and convey power at 275,000 volts to the receiving station at Watts. The line was planned to be the main source of power for metropolitan Los Angeles and conceptualized to assure it could continue to deliver electricity in spite of lightning

strikes, short circuits and other electrical faults, or required routine maintenance. Elements adopted to assure voltage and reliability consisted of the overall layout of the system and tower configuration. Key elements are considered to be (1) delivery of high voltage power (287.5 kV at the time), (2) 90-mile segments, (3) single/double configuration, and (4) rotary tower design.

In spite of modifications that have occurred over 60 years of operation, the Boulder - Los Angeles Transmission Line retains these key design elements, giving it a high degree of design integrity. The original switching stations still exist in an easily recognizable state as do the vast majority of the towers. Boulder Line 1 still utilizes the original, distinctive HH cable and is operated at the original 287.5 kV. While Boulder Line 2 is now operated for most of its length at 500 kV, utilizing newer aluminum cable, the distinctive high crowned, rotary towers provide a very strong sense of continuity with the original design. Moreover, the original single/double circuit configuration of Boulder Lines 1 and 2 has been maintained as originally planned. While the Silver Lake Switching Station has been removed from service, sufficient hardware still exists at the site to recall its original function.

The diversion of all three Boulder Lines to Mead Switching Station in Nevada during the late 1980s has altered the original design concept to some degree. LADWP no longer controls the portion of the lines from Hoover Dam to Mead, but rather, receives power from WAPA at Mead. However, the diversion to Mead required replacement of very few towers and relatively little associated conductor. Consequently, the visual element of design maintains strong continuity with the original in both the WAPA and LADWP segments.

Generally, the towers maintain their overall design elements. Minor tower replacements have occurred in the double circuit portion. As mentioned previously (see Location), in 1969, approximately one mile of line was relocated for the rerouting of Rosemead Boulevard at Whittier Narrows Dam. Five towers were removed and replaced with six dead end towers. In 1974, two towers were replaced on either side of Live Oak Reservoir. In the single circuit section Boulder Line 1 (Century - Victorville 1) towers remain unaltered except for minor repair. Boulder Line 2 towers were modified in 1980 on the McCullough - Victorville 2 segment when the line was upgraded to 500 kV. Of the 860 original towers in this section 801 were modified at least slightly and 59 (6%) replaced including all dead end towers (Transmission Design Manual 1991). The modifications have not altered the basic original configuration of the towers and the new dead end towers have an overall configuration similar to original towers on the line (Figure 8: see also Figure 4 and Plates 1 and 31). Consequently, the sense of the original design has been maintained.

Setting

Setting is defined as the "physical environment of a historic property" (National Park Service 1991:44-45). The transmission lines setting has remained largely unaltered along its 215 mile route in the Mojave Desert and through Cajon Pass and Lytle Creek. The biggest change in the Mojave Desert has been the construction along the right of way of Boulder Line 3 in 1939, and the IPP line in the mid 1980s. These impacts, however, are minor. The setting of vast desert landscape over which the 287.5 kV Boulder Dam - Los Angeles Transmission Line was built still remains unaltered and the two rows of steel towers paralleling the access road form an identifiable unit in the center of the existing lines built beside them (see Plates 33-36). From Victorville Switching Station through Cajon Pass and Lytle Creek the right of way is generally unencumbered by additional transmission lines (see Plate 7). The most severe changes in setting have occurred on the approximately 40 mile double circuit portion of the line due to the development of urban Los Angeles (see Plate 12). However, this portion was not undeveloped wilderness at the time of construction and has evolved from agricultural to urban use.

In summary, the 287.5 kV transmission line retains a high degree of integrity of setting over approximately 80 percent of its route. Those portions constructed over uninhabited wilderness remain largely unchanged except for minor alterations. Overall, approximately 13 percent of the overall setting has been affected by urbanization. The areas most altered include

that portion that presently runs through urban Los Angeles and approximately five miles of right of way west of the Victorville Switching Station that has undergone urban development. However, the Los Angeles portion was not undeveloped property when the line was constructed and change in this area has been more of type than degree.

Materials

Materials are defined as the "physical elements that were combined during a particular period of time and in a particular pattern or construction to form a historic property" (National Park Service 1991:44-45). Materials for the Boulder Dam -Los Angeles 287.5 kV Transmission Line includes steel towers, concrete footings, original conductors and hardware, counterpoise, and original equipment in transformer and switching stations. Modifications have occurred unevenly to materials on the line although overall they are still largely intact. All equipment has been updated at the transformer and receiving stations so that these facilities have been the most compromised with respect to integrity of materials. Original towers, switch racks, counterpoise, and overhead ground wires and associated supporting antenna are still in existence at Century, Victorville, and Hoover Dam, however, so that the stations still retain their overall original appearance (see Plates 17-22). At Silver Lake most of the switch racks have been removed (see Plates 15 and 16). Materials of the structural system consisting of steel towers and concrete footings is largely intact with the exceptions previously discussed. Conductor and associated hardware is still in place on most of the line although some significant portions have been replaced. Between the Victorville Switching Station and the Los Angeles Receiving Station, both circuits retain original HH conductor and hardware except in small sections where segments have been replaced as a result of relocation and repair. Approximately four miles or 20,956 feet of original conductor and associated hardware has been replaced in this 90-mile section. Of this all but 700 feet, located along Lytle Creek, has been in the double circuit portion (Data Book n.d.). In the 150-mile section between the McCullough and Victorville Switching Stations all original conductor on Boulder Line 2 (McCullough - Victorville 2) has been replaced with aluminum cable conductor. Boulder Line 1 in this portion is still largely unaltered, as only approximately 1.5 miles or 7,846 feet have been replaced with aluminum conductor (Data Book n.d.). From the transformer at Hoover Dam to the new McCullough Switching Station, the lines consist of original HH conductor (Data Book n.d; Powers 1993). It is estimated that approximately one third of the original counterpoise in the desert regions has been removed by vandals scavenging the copper. It was never replaced because time has shown that original concerns over the potential for lightning strikes in this section were highly exaggerated (Taylor 1994). In conclusion, in spite of modifications that have occurred to the Boulder Dam - Los Angeles 287.5 kV Transmission Line as a result of vandalism, maintenance, repair, and upgrading; the historic fabric is still approximately 70 percent intact.

Workmanship

Workmanship is defined as "physical evidence of crafts of a particular culture or people" (National Park Service 1991:44-45). The Boulder Dam - Los Angeles 287.5 kV Transmission line retains integrity of workmanship through the existence of original towers, conductor, insulators, and other hardware already discussed above.

Feeling and Association

Feeling is defined as "a property's expression of the aesthetic or historic sense of a particular period or time." It results from the presence of historic features that together convey the property's historic character. Association is the "direct link between an important historic event and a historic property" (National Park Service 1991:44-45). Integrity of location, setting, design and materials discussed above combine to give a strong sense of feeling and association to the Boulder Dam -Los Angeles 287.5 kV transmission line. The line exists on its original location in a largely unaltered setting. Within this context the original towers, road, transformer and switching stations and conductor with its associated hardware combine to convey the historic character of its development and construction over vast stretches of harsh uninhabited terrain as well as its existence as a unique example of point to point high voltage transmission. In the single circuit section the two parallel lines of steel

towers and the access road form a definable unit that stretches for hundreds of miles across desert and mountains. As such, the line still has a strong sense of association with the historic events of its own development and construction as well as the Boulder Canyon project.

Integrity Summary

The Boulder Dam - Los Angeles 287.5 kV Transmission Line retains integrity of location, design, setting, materials, workmanship, feeling and association in spite of alterations that have occurred during 60 years of operation. With the exception of occasional tower relocations the line retains a high degree of integrity of location. These changes have mostly occurred in the western double circuit tower section where urban development has resulted in construction of freeways and flood control dams where towers needed to be raised or moved.

The lines still retain a high degree of integrity of design, materials, and workmanship. The structural system consisting of steel towers is still largely intact for both lines and the lines still function as originally designed. Between the Victorville Switching Station and the Los Angeles Receiving Station, both lines retain original HH conductor and hardware except in small sections where segments have been replaced as a result of relocation or repair. This is also the case between the step up transformer at Hoover Dam and the McCullough Switching Station. Between the McCullough and Victorville Switching Stations, conductor on Boulder Line 2 has been replaced with aluminum cable and the towers modified. Approximately six percent of the original towers along this section have been replaced. Boulder Line 1 in this portion is still largely unaltered.

The transmission line also retains a high degree of setting, feeling, and association. The setting along the 200 miles of line in the Mojave Desert has changed little since the project was completed. Because of this the entire single circuit section retains a strong sense of association with the Boulder Canyon Project and the original construction effort over vast stretches of uninhabited harsh terrain.

The setting has changed to varying degrees on the double circuit tower portion of the line due to the development of urban Los Angeles. However, this portion was not undeveloped wilderness at the time of construction and has evolved from agricultural to urban use.

Significance Summary Statement

In summary, the Boulder Dam - Los Angeles 287.5 kV Transmission Line is significant under Criterion C in that it is a prime example of point to point long distance high voltage transmission and represented the pinnacle of achievement of over 40 years of transmission line development in California. In addition, it is significant under Criterion A because it is associated with the construction of Boulder/Hoover Dam and the development of metropolitan Los Angeles. In spite of 60 years of operation the line still retains a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association.

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National Park Service

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Boulder Dam - Los Angeles 287.5 kV Transmission Line
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GEOGRAPHICAL DATA

UTM References for Boulder Transmission Lines 1 and 2

Hoover Dam, Nev. - Ariz.

Boulder Switch yard (Center point)	11/ 703720	mE
	3988155	mN
BTL I	11/ 703430	mE
	3988130	mN
BTL II	11/ 703460	mE
	3988200	mN
BTL I	11/ 702780	mE
	3987720	mN
BTL II	11/ 702780	mE
	3987790	mN

Boulder Beach, Nev. - Ariz.

BTL I	11/ 702760	mE
	3987700	mN
BTL II	11/ 702760	mE
	3987780	mN
Access Road	11/ 700530	mE
	3987345	mN
BTL I	11/ 699740	mE
	3986020	mN
BTL II	11/ 699630	mE
	3986020	mN
Access Road	11/ 699775	mE
	3986020	mN

Boulder City, Nev.

BTL I	11/ 699740	mE
	3986020	mN
BTL II	11/ 699630	mE
	3986020	mN
Access Road	11/ 699775	mE
	3986020	mN
BTL I	11/ 691770	mE
	3975500	mN
BTL II	11/ 691770	mE
	3975620	mN
Access Road	11/ 691770	mE
	3975550	mN

Boulder City NW, Nev.

BTL I	11/ 691770	mE
	3975500	mN
BTL II	11/ 691770	mE
	3975620	mN
Access Road	11/ 691770	mE
	3975550	mN
BTL I	11/ 687890	mE
	3971910	mN
BTL II	11/ 687840	mE
	3971905	mN
Access Road	11/ 687780	mE
	3971905	mN

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Boulder City SW, Nev.

BTL I	11/ 687890	mE
	3971910	mN
BTL II	11/ 687780	mE
	3971900	mN
Access Road	11/ 687840	mE
	3971905	mN
BTL I	11/ 680720	mE
	3964060	mN
BTL II	11/ 680720	mE
	3964160	mN
Access Road	11/ 680720	mE
	3964100	mN

Sloan SE, Nev.

BTL I	11/ 680720	mE
	3964060	mN
BTL II	11/ 680720	mE
	3964160	mN
Access Road	11/ 680720	mE
	3964100	mN
BTL I	11/ 671280	mE
	3957675	mN
BTL II	11/ 671140	mE
	3957675	mN
Access Road	11/ 671205	mE
	3957675	mN

McCullough Mtn. NE, Nev.

BTL I	11/ 671280	mE
	3957720	mN
BTL II	11/ 671140	mE
	3957725	mN
Access Road	11/ 671205	mE
	3957675	mN
BTL I	11/ 669540	mE
	3956910	mN
BTL II	11/ 669540	mE
	3957040	mN
Access Road	11/ 669560	mE
	3956930	mN

McCullough Pass, Nev.

BTL I	11/ 669560	mE
	3956910	mN
BTL II	11/ 669560	mE
	3957040	mN
Access Road	11/ 669560	mE
	3956930	mN
BTL I	11/ 658325	mE
	3951700	mN
BTL II	11/ 658325	mE
	3951790	mN
Access Road	11/ 658325	mE
	3951750	mN

Roach, Nev.

BTL I	11/ 658325	mE
	3951700	mN
BTL II	11/ 658325	mE
	3951790	mN
Access Road	11/ 658325	mE
	3951750	mN
BTL I	11/ 647420	mE
	3943370	mN
BTL II	11/ 647230	mE
	3943370	mN
Access Road	11/ 647330	mE
	3943370	mN

Ivanpah Lake, Calif. - Nev.

BTL I	11/ 647150	mE
	3943230	mN
BTL II	11/ 647150	mE
	3943325	mN
Access Road	11/ 647150	mE
	3943280	mN
BTL I	11/ 635880	mE
	3940100	mN
BTL II	11/ 635880	mE
	3940200	mN
Access Road	11/ 635880	mE
	3940240	mN

Clark Mtn., Calif.

BTL I	11/ 635880	mE
	3940100	mN
BTL II	11/ 635880	mE
	3940200	mN
Access Road	11/ 635880	mE
	3940240	mN
BTL I	11/ 624580	mE
	3938940	mN
BTL II	11/ 624580	mE
	3939030	mN
Access Road	11/ 624580	mE
	3939075	mN

Pachalka Spring, Calif.

BTL I	11/ 624580	mE
	3938940	mN
BTL II	11/ 624580	mE
	3939030	mN
Access Road	11/ 624580	mE
	3939075	mN
BTL I	11/ 613320	mE
	3933870	mN
BTL II	11/ 613320	mE
	3933940	mN
Access Road	11/ 613320	mE
	3933980	mN

East of Kingston Spring, Calif.

BTL I	11/ 613320	mE
	3933870	mN
BTL II	11/ 613320	mE
	3933940	mN
Access Road	11/ 613320	mE
	3933980	mN
BTL I	11/ 602030	mE
	3929800	mN
BTL II	11/ 602030	mE
	3929880	mN
Access Road	11/ 602030	mE
	3929925	mN

Kingston Spring, Calif.

BTL I	11/ 602030	mE
	3929800	mN
BTL II	11/ 602030	mE
	3929880	mN
Access Road	11/ 602030	mE
	3929925	mN
BTL I	11/ 599500	mE
	3928840	mN
BTL II	11/ 599380	mE
	3928840	mN
Access Road	11/ 599340	mE
	3928840	mN

Torquoise Mtn., Calif.

BTL I	11/ 599500	mE
	3928840	mN
BTL II	11/ 599380	mE
	3928840	mN
Access Road	11/ 599340	mE
	3928840	mN
BTL I	11/ 590770	mE
	3921940	mN
BTL II	11/ 590770	mE
	3922030	mN
Access Road	11/ 590770	mE
	3922075	mN

North of Baker, Calif.

BTL I	11/ 590770	mE
	3921940	mN
BTL II	11/ 590770	mE
	3922030	mN
Access Road	11/ 590770	mE
	3922075	mN
BTL I	11/ 579480	mE
	3916060	mN
BTL II	11/ 579480	mE
	3916140	mN
Access Road	11/ 579480	mE
	3916100	mN

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Silurian Valley, Calif.

BTL I	11/ 579480	mE
	3916060	mN
BTL II	11/ 579480	mE
	3916140	mN
Access Road	11/ 579480	mE
	3916100	mN
BTL I	11/ 577640	mE
	3914770	mN
BTL II	11/ 577520	mE
	3914770	mN
Access Road	11/ 577610	mE
	3914770	mN

West of Baker, Calif.

BTL I	11/ 577640	mE
	3914770	mN
BTL II	11/ 577520	mE
	3914770	mN
Access Road	11/ 577610	mE
	3914770	mN
BTL I	11/ 568180	mE
	3907380	mN
BTL II	11/ 568180	mE
	3907500	mN
Access Road	11/ 568180	mE
	3907450	mN

Red Pass Lake, Calif.

BTL I	11/ 568180	mE
	3907380	mN
BTL II	11/ 568180	mE
	3907500	mN
Access Road	11/ 568180	mE
	3907450	mN
BTL I	11/ 557780	mE
	3900750	mN
BTL II	11/ 557440	mE
	3900750	mN
Access Road	11/ 558115	mE
	3900750	mN

West Cronese Lakes, Calif.

BTL I	11/ 557780	mE
	3900750	mN
BTL II	11/ 557440	mE
	3900750	mN
Access Road	11/ 558115	mE
	3900750	mN
BTL I	11/ 556870	mE
	3899500	mN
BTL II	11/ 556870	mE
	3899690	mN
Access Road	11/ 556870	mE
	3899600	mN

Bitter Spring, Calif.

BTL I	11/ 556870	mE
	3899500	mN
BTL II	11/ 556870	mE
	3899690	mN
Access Road	11/ 556870	mE
	3899600	mN
BTL I	11/ 547910	mE
	3886830	mN
BTL II	11/ 547790	mE
	3886830	mN
Access Road	11/ 547850	mE
	3886830	mN

Dunn, Calif.

BTL I	11/ 547910	mE
	3886830	mN
BTL II	11/ 547790	mE
	3886830	mN
Access Road	11/ 547850	mE
	3886830	mN
BTL I	11/ 545570	mE
	3884380	mN
BTL II	11/ 545570	mE
	3884500	mN
Access Road	11/ 545570	mE
	3884460	mN

CONTINUATION SHEET
ADDITIONAL DOCUMENTATION - SECTION 10
Boulder Dam - Los Angeles 287.5 kV Transmission Line
Clark County, Nevada
San Bernardino County, California
Los Angeles County, California

Alvord Mtn. East, Calif.

BTL I	11/ 545570	mE
	3884375	mN
BTL II	11/ 545570	mE
	3884500	mN
Access Road	11/ 545570	mE
	3884460	mN
BTL I	11/ 534220	mE
	3873980	mN
BTL II	11/ 534220	mE
	3874080	mN
Access Road	11/ 534220	mE
	3874005	mN

Alvord Mtn. West, Calif.

BTL I	11/ 534220	mE
	3873980	mN
BTL II	11/ 534220	mE
	3874080	mN
Access Road	11/ 534220	mE
	3874000	mN
BTL I	11/ 532940	mE
	3872910	mN
BTL II	11/ 532820	mE
	3872910	mN
Access Road	11/ 532900	mE
	3872910	mN

Harvard Hill, Calif.

BTL I	11/ 532940	mE
	3872910	mN
BTL II	11/ 532820	mE
	3872910	mN
Access Road	11/ 532900	mE
	3872910	mN
BTL I	11/ 522840	mE
	3864460	mN
BTL II	11/ 522840	mE
	3864570	mN
Access Road	11/ 522840	mE
	3864525	mN

Yermo, Calif.

BTL I	11/ 522840	mE
	3864460	mN
BTL II	11/ 522840	mE
	3864570	mN
BTL I	11/ 518480	mE
	3859000	mN
BTL II	11/ 518350	mE
	3859000	mN
Access Road	11/ 518425	mE
	3859000	mN

Minneola, Calif.

BTL I	11/ 518480	mE
	3859000	mN
BTL II	11/ 518350	mE
	3859000	mN
Access Road	11/ 518425	mE
	3859000	mN
BTL I	11/ 511430	mE
	3854210	mN
BTL II	11/ 511430	mE
	3854300	mN
Access Road	11/ 511430	mE
	3854350	mN

Daggett, Calif.

BTL I	11/ 511430	mE
	3854210	mN
BTL II	11/ 511430	mE
	3854300	mN
Access Road	11/ 511430	mE
	3854350	mN
BTL I	11/ 500000	mE
	3846340	mN
BTL II	11/ 500000	mE
	3846460	mN
Access Road	11/ 500000	mE
	3846380	mN

CONTINUATION SHEET
ADDITIONAL DOCUMENTATION - SECTION 10
Boulder Dam - Los Angeles 287.5 kV Transmission Line
Clark County, Nevada
San Bernardino County, California
Los Angeles County, California

Barstow SE, Calif.

BTL I	11/ 500000	mE
	3846340	mN
BTL II	11/ 500000	mE
	3846460	mN
Access Road	11/ 500000	mE
	3846380	mN
BTL I	11/ 498580	mE
	3845120	mN
BTL II	11/ 498440	mE
	3845120	mN
Access Road	11/ 498515	mE
	3845120	mN

Stoddard Well, Calif.

BTL I	11/ 498580	mE
	3845120	mN
BTL II	11/ 498440	mE
	3845120	mN
Access Road	11/ 498515	mE
	3845120	mN
BTL I	11/ 488560	mE
	3840760	mN
BTL II	11/ 488560	mE
	3840840	mN
Access Road	11/ 488560	mE
	3840800	mN

Turtle Valley, Calif.

BTL I	11/ 488560	mE
	3840760	mN
BTL II	11/ 488560	mE
	3840840	mN
Access Road	11/ 488560	mE
	3840800	mN
BTL I	11/ 477980	mE
	3831280	mN
BTL II	11/ 477850	mE
	3831280	mN

Apple Valley North, Calif.

BTL I	11/ 477980	mE
	3831280	mN
BTL II	11/ 477850	mE
	3831280	mN
BTL I	11/ 477080	mE
	3830460	mN
BTL II	11/ 477080	mE
	3830560	mN

Victorville, Calif.

BTL I	11/ 477080	mE
	3830460	mN
BTL II	11/ 477080	mE
	3830560	mN
Access Road	11/ 476740	mE
	3830200	mN
Victorville Switch yard (Center point)	11/ 471050	mE
	3824785	mN
Victorville Operations Building	11/ 470995	mE
	3824725	mN
BTL I	11/ 466630	mE
	3817460	mN
BTL II	11/ 466540	mE
	3817460	mN
Access Road	11/ 466580	mE
	3817460	mN

Hesperia, Calif.

BTL I	11/ 466630	mE
	3817460	mN
BTL II	11/ 466540	mE
	3817460	mN
Access Road	11/ 466580	mE
	3817460	mN
BTL I	11/ 465570	mE
	3815680	mN
BTL II	11/ 465570	mE
	3815830	mN
Access Road	11/ 465570	mE
	3815750	mN

CONTINUATION SHEET
ADDITIONAL DOCUMENTATION - SECTION 10
Boulder Dam - Los Angeles 287.5 kV Transmission Line
Clark County, Nevada
San Bernardino County, California
Los Angeles County, California

Baldy Mesa, Calif.

BTL I	11/ 465570	mE
	3815680	mN
BTL II	11/ 465570	mE
	3815830	mN
Access Road	11/ 465570	mE
	3815750	mN
BTL I	11/ 458360	mE
	3803630	mN
BTL II	11/ 458260	mE
	3803630	mN
Access Road	11/ 458310	mE
	3803630	mN

Cajon, Calif.

BTL I	11/ 458360	mE
	3803630	mN
BTL II	11/ 458260	mE
	3803630	mN
Access Road	11/ 458310	mE
	3803630	mN
BTL I	11/ 456390	mE
	3789780	mN
BTL II	11/ 456290	mE
	3789780	mN
Access Road	11/ 456290	mE
	3789780	mN

Devore, Calif.

BTL I	11/ 456390	mE
	3789780	mN
BTL II	11/ 456290	mE
	3789780	mN
Access Road	11/ 456295	mE
	3789780	mN
BTL I	11/ 453920	mE
	3780400	mN
BTL II	11/ 453920	mE
	3780470	mN
Access Road	11/ 453920	mE
	3780425	mN

Cucamonga Peak, Calif.

BTL I	11/ 453920	mE
	3780400	mN
BTL II	11/ 453920	mE
	3780470	mN
Access Road	11/ 453920	mE
	3780425	mN
BTL I	11/ 442400	mE
	3780170	mN
BTL II	11/ 442400	mE
	3780260	mN
Access Road	11/ 442400	mN
	3780220	mN

Mt. Baldy, Calif.

BTL I	11/ 442400	mE
	3780170	mN
BTL II	11/ 442400	mE
	3780260	mN
Access Road	11/ 442400	mE
	3780220	mN
BTL I-II	11/ 438500	mE
	3779660	mN
BTL I-II	11/ 430850	mE
	3777350	mN

Glendora, Calif.

BTL I-II	11/ 430850	mE
	3777350	mN
BTL I-II	11/ 426700	mE
	3776110	mN

San Dimas, Calif.

BTL I-II	11/ 426700	mE
	3776110	mN
BTL I-II	11/ 419300	mE
	3775390	mN

CONTINUATION SHEET
ADDITIONAL DOCUMENTATION - SECTION 10
Boulder Dam - Los Angeles 287.5 kV Transmission Line
Clark County, Nevada
San Bernardino County, California
Los Angeles County, California

Baldwin Park, Calif.

BTL I-II	11/ 419300	mE
	3775390	mN
BTL I-II	11/ 407720	mE
	3768880	mN

El Monte, Calif.

BTL I-II	11/ 407720	mE
	3768880	mN
BTL I-II	11/ 399340	mE
	3762490	mN

Whittier, Calif.

BTL I-II	11/ 399340	mE
	3762490	mN
BTL I-II	11/ 396065	mE
	3759120	mN

South Gate, Calif.

BTL I-II	11/ 396065	mE
	3759120	mN
BTL I-II	11/ 384500	mE
	3756980	mN

Inglewood, Calif.

BTL I-II	11/ 384500	mE
	3756980	mN
BTL I-II	11/ 384220	mE
	3756980	mN
Century Receiving Station Receiving Yard (Center point)	11/ 384075	mE
	3756920	mN
Century Receiving Station Control House	11/ 384150	mE
	3756700	mN

CONTINUATION SHEET
ADDITIONAL DOCUMENTATION - SECTION 10
Boulder Dam - Los Angeles 287.5 kV Transmission Line
Clark County, Nevada
San Bernardino County, California
Los Angeles County, California

Verbal Boundary Description

The boundaries of the property begin at the step up transformer station 2,000 feet southwest of Hoover Dam in Nevada, through the Silver Lake and Victorville Switching Stations in California's Mojave Desert, and end at the Century Receiving Station in Los Angeles, California (Map 1). The Boulder station measures 675 ft northeast-southwest and 300 ft northwest-southeast. The single-circuit transmission corridor is 400 feet wide and 225.2 miles long. This portion of the corridor includes the Silver Lake and Victorville switching stations (Maps 3 and 4). The Silver Lake station measures approximately 620 ft square while the Victorville station is 650 ft northeast-southwest and 600 ft northwest-southeast. The double circuit transmission corridor, which begins near the city of Upland, California, is 200 feet wide and 40.8 miles long (Map 5). The line ends at the Century Receiving Station (Map 6). This station measures approximately 1,600 ft north-south and 650 ft east-west.

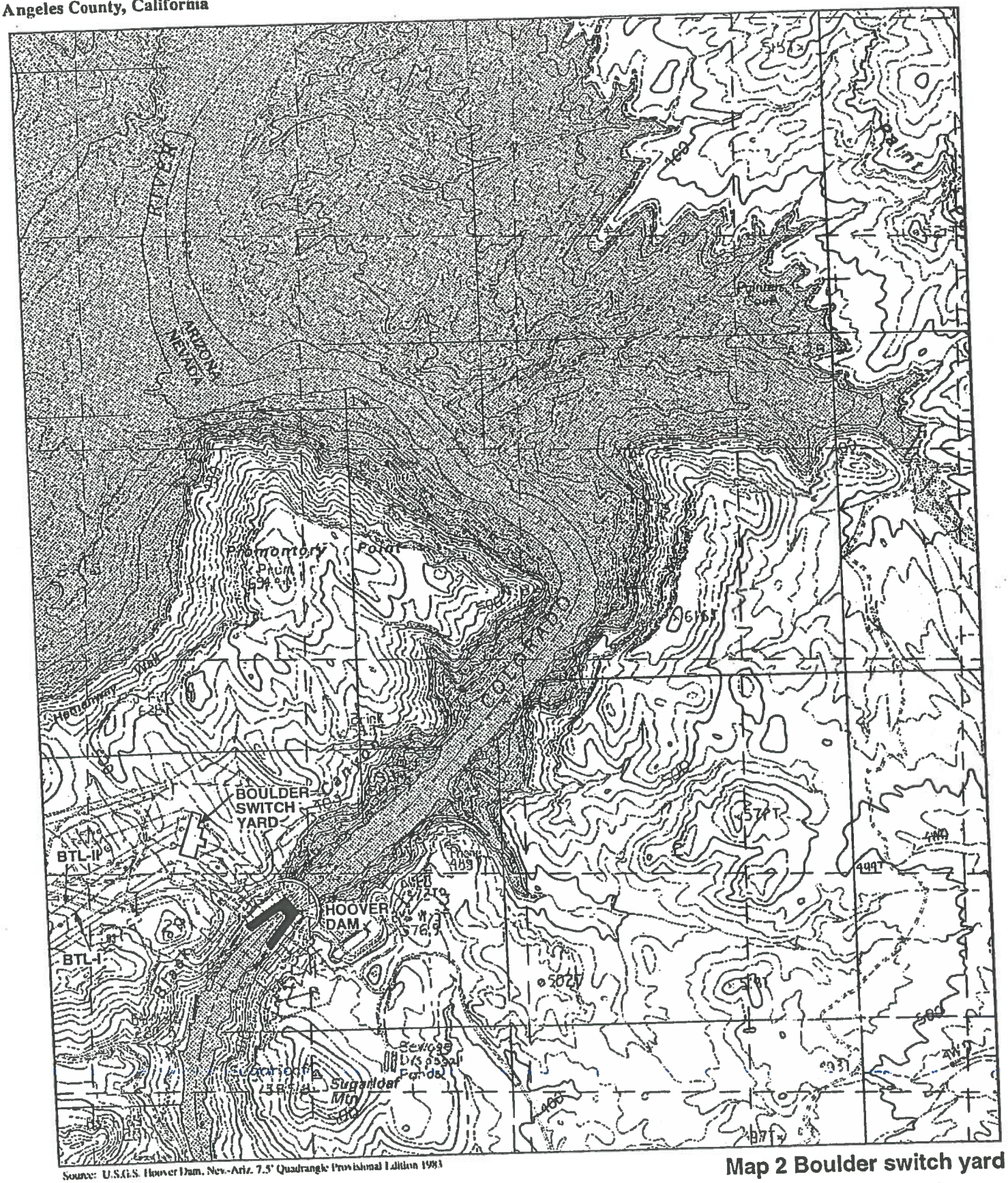
Boundary Justification

The boundaries for this linear resource encompass the transmission corridor from beginning to end and the components considered to be contributing elements.

CONTINUATION SHEET
ADDITIONAL DOCUMENTATION
Boulder Dam - Los Angeles 287.5 kV Transmission Line
Clark County, Nevada
San Bernardino County, California
Los Angeles County, California

Map 1

CONTINUATION SHEET
ADDITIONAL DOCUMENTATION
Boulder Dam - Los Angeles 287.5 kV Transmission Line
Clark County, Nevada
San Bernardino County, California
Los Angeles County, California

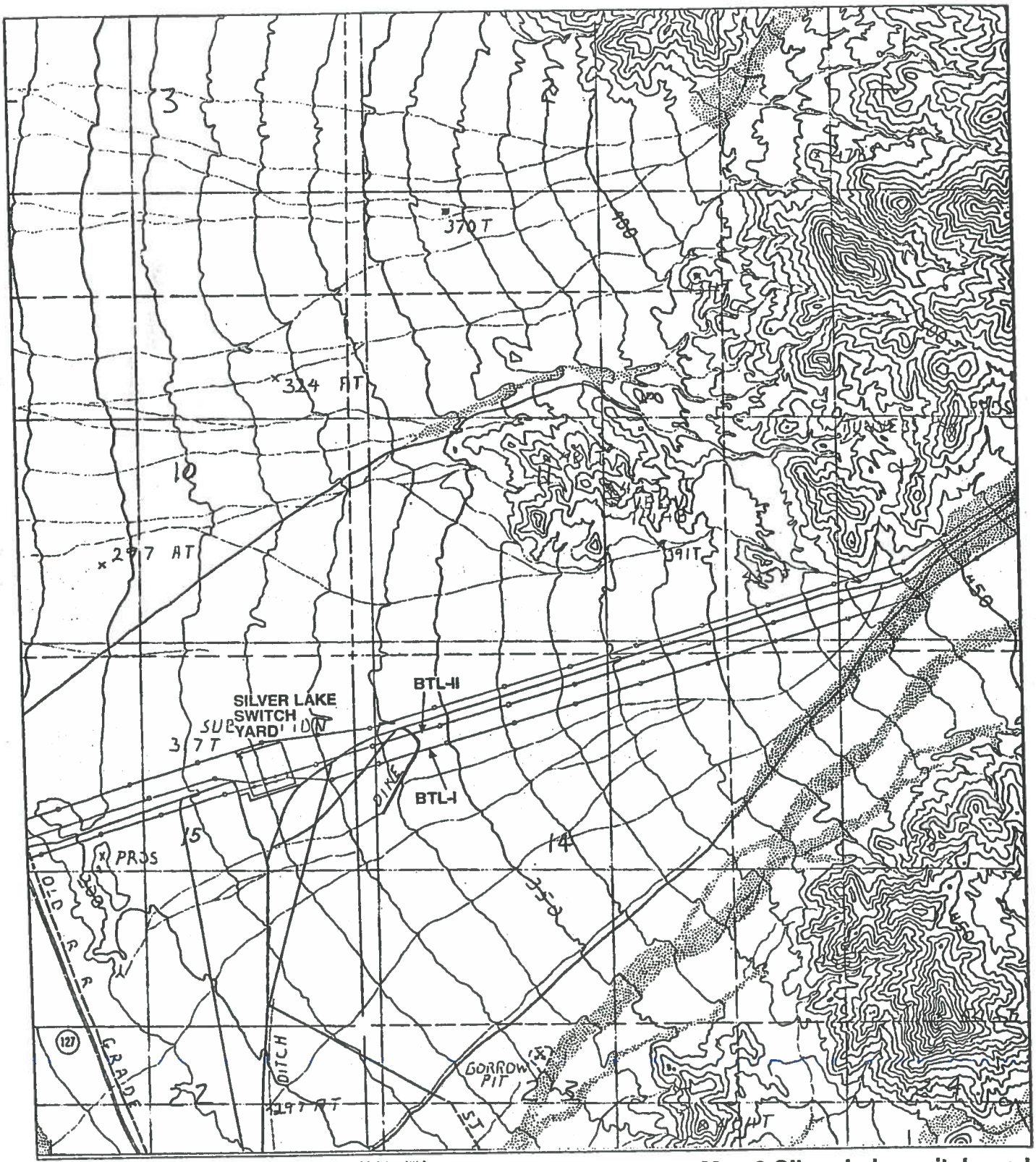


Source: U.S.G.S. Hoover Dam, Nev.-Ariz. 7.5' Quadrangle Provisional Edition 1983

Map 2 Boulder switch yard

0 2000 Feet

CONTINUATION SHEET
ADDITIONAL DOCUMENTATION
Boulder Dam - Los Angeles 287.5 kV Transmission Line
Clark County, Nevada
San Bernardino County, California
Los Angeles County, California



Source: U.S.G.S. North of Baker, Calif. 7.5' Quadrangle Provisional Edition 1983

Map 3 Silver Lake switch yard

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code: 2B

Other Listings
Review Code | Reviewer | Date

*Resource Name or #: Boulder Dam-Los Angeles 287.5 kV Transmission Line

P1. Other Identifier: Los Angeles Department of Water and Power Boulder Lines 1 and 2

*P2. Location: ☐ Not for Publication ☒ Unrestricted *a. County: Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad: see below Date: T ; R ; ¼ of ¼ of Sec ; M.D. B.M.

c. Address: City: Zip:

d. UTM: Zone: 10 ; mE/ mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Quads (south to north): Inglewood, South Gate, Whittier, El Monte, Baldwin Park, San Dimas, Glendora and Mt. Baldy

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
The Boulder Dam - Los Angeles 287.5 kV Transmission Line is two parallel electrical transmission circuits carried on steel lattice towers running approximately 270 miles from the Hoover Dam to Century Receiving Station near Watts, in Los Angeles County California. This form documents the approximately 40-mile segment situated within Los Angeles County.

*P3b. Resource Attributes: (List attributes and codes) HP11. Engineering structure, HP9. Public utility building

*P4. Resources Present: ☐Building ☐Structure ☐Object ☐Site ☐District ☒Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #)
Looking west from Bess Avenue Pedestrian Overcrossing

*P6. Date Constructed/Age and Sources: ☒Historic ☐Prehistoric ☐Both
1935-1936

*P7. Owner and Address:
LA Dept of Water and Power
111 North Hope Street
Los Angeles, CA 90012

*P8. Recorded by: (Name, affiliation, and address)
Noah M. Stewart
Caltrans, District 7
100 South Main Street, Suite 100
Los Angeles, CA 90012

*P9. Date Recorded:
August 2008

*P10. Survey Type: (Describe)
Reconnaissance survey

*P11. Report Citation: (Cite survey report and other sources, or enter "none.") Noah M. Stewart. Historic Resources Evaluation Report: Interstate Route 10 – 605 Interchange Improvement, 07-LA-10/605 PM 31.2/20.9, EA 24540K, 2008.

*Attachments: ☐NONE ☒Location Map ☐Sketch Map ☒Continuation Sheet ☐Building, Structure, and Object Record ☐Archaeological Record ☒District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
DISTRICT RECORD

Primary #
HRI #
Trinomial

*NRHP Status Code: 2B

*Resource Name or # (Assigned by recorder): Boulder Dam-Los Angeles 287.5 kV Transmission Line

D1. Historic Name: Los Angeles Department of Water and Power Boulder Lines North and South
D2. Common Name: Los Angeles Department of Water and Power Boulder Lines 1 and 2

*D3. Detailed Description (Discuss overall coherence of the district, its setting, visual characteristics, and minor features. List all elements of district.): The historic district is a linear resource approximately 270 miles long. It is composed of several contributing elements including the transmission line cables (originally approximately 1,600 miles of 1.4-inch diameter hollow copper conductor), the single and double circuit towers carrying the cables (originally 2,695 towers in total), the access road serving the towers, two switching stations and two transformer stations.

Not all aspects of the historic district are located within Los Angeles County. The access road is exclusively located within the Mojave Desert, where it serves the single circuit towers and switching stations. Only the double circuit towers were used within Los Angeles County and there no switching stations were needed in the region. The final aspect of the historic district within Los Angeles County is the Century Receiving Station, the transformer station where the high voltage power is stepped-down to a lower voltage for distribution throughout the city. Century Receiving Station includes the control house building and associated oil house as well as the yard (switch racks, counterpoise grid and overhead round wires). (see Continuation Sheet page 3)

*D4. Boundary Description (Describe limits of district and attach map showing boundary and district elements.):
The boundary of the entire district encompasses the transmission corridor from its beginning at the Boulder Dam (later Hoover Dam), on the Nevada side of the Colorado River, to the Century Receiving Station in Los Angeles, California, a distance of approximately 270 miles.

Within Los Angeles County the historic district includes the transmission corridor, which is approximately 40 miles long, from its intersection with the Los Angeles/San Bernardino County line near the City of Claremont to the Century Receiving Station, in south Los Angeles. In addition to the transmission corridor the boundary includes the Century Receiving Station parcel located at the corner of Central Avenue and Century Boulevard, Los Angeles.

*D5. Boundary Justification:
The boundaries for this resource encompass the transmission corridor from beginning to end as well as all of the components considered to be contributing elements.

*D6. Significance: Theme: Engineering Area: State of California
Period of Significance: 1936 - 1953 Applicable Criteria: A & C (Discuss district's importance in terms of its historical context as defined by theme, period of significance, and geographic scope. Also address the integrity of the district as a whole.)
The Boulder Dam-Los Angeles 287.5 kV Transmission Line was determined eligible for inclusion on the National Register of Historic Places in 1999 under Criteria A and C. Under Criterion A it was found significant for (1) its association with the construction of Hoover Dam, a National Historic Landmark and water reclamation and irrigation project of exceptional importance to the American southwest, and (2) the (see Continuation Sheet page 3)

*D7. References (Give full citations including the names and addresses of any informants, where possible.):
Van Wormer, Stephen and Christy Dolan. National Register of Historic Places Registration Form: Boulder Dam–Los Angeles 287.5 kV Transmission Line. San Diego: KEA Environmental for the U.S. Department of the Interior, Bureau of Land Management, 1999.

*D8. Evaluator: Noah M. Stewart Date: August 2008
Affiliation and Address: Caltrans, District 7, 100 South Main Street, Suite 100, Los Angeles, CA 90012

*D3. Detailed Description (continued from page 2)
control house building and associated oil house as well as the yard (switch racks, counterpoise grid and overhead round wires).

The double circuit towers were based on conventional designs of the time. Five types were designed including the standard suspension, angle suspension, dead end, dead end angle and transposition towers; each providing a specific function. The tower are comprised of a galvanized steel latticework and are typically 144 feet tall, however the height could be adjusted by adding 10 foot extensions to the base. The towers carry the conductor cables in a vertical plane on both sides of the tower.

The control house building at the Century Receiving Station was built in 1926 of reinforced concrete construction. The building measures approximately 40 by 120 feet, the longer side facing the street. It is two stories over a basement, designed in a reserved Beaux-Arts style (the Starved Classical vein). The façade is symmetrical with the entry at the center, framed by four two-story pilasters, two on either side of the door. The doorway is capped with a classical pediment. The roof is flat but hidden behind a stepped parapet. The windows appear to be steel framed industrial fixed panes. As the station existed prior to the completion of the transmission of such high voltage a major upgraded was required before it could receive power from the Hoover Dam. At the time of completion the two transformer banks installed at the station were the largest installation in the world, both from the standpoint of size and capacity.

*D6. Significance: (continued from page 2)
industrial, economic, and urban development that occurred in metropolitan Los Angeles from the mid-1930s through the 1940s. Without the power from the Hoover Dam the development of modern Los Angeles during these years could not have taken place.

It was also determined significant under Criterion C for its unique engineering and structural characteristics within the context of development of point-to-point high power transmission in California. The line represents a high level of achievement in point to point high voltage power transmission that remained unsurpassed for many years.

Based on the information included in the 1999 National Register nomination and compared to the current state of the historic district within Los Angeles County the Boulder Dam-Los Angeles 287.5 kV Transmission Line appears to continue to be eligible for the National Register of Historic Places under Criterion A and C.

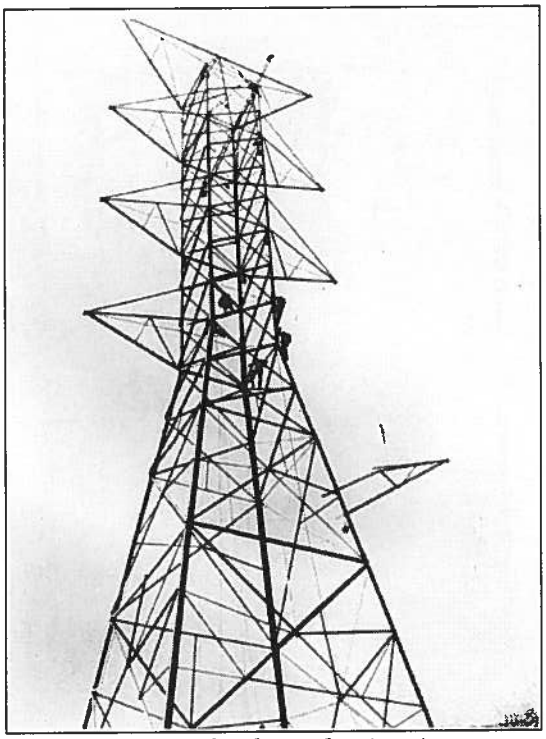


Figure 1: Example of the standard single circuit towers found throughout Los Angeles County, ca. 1935. From the Historical Photo Collection of the Department of Water and Power, City of Los Angeles.

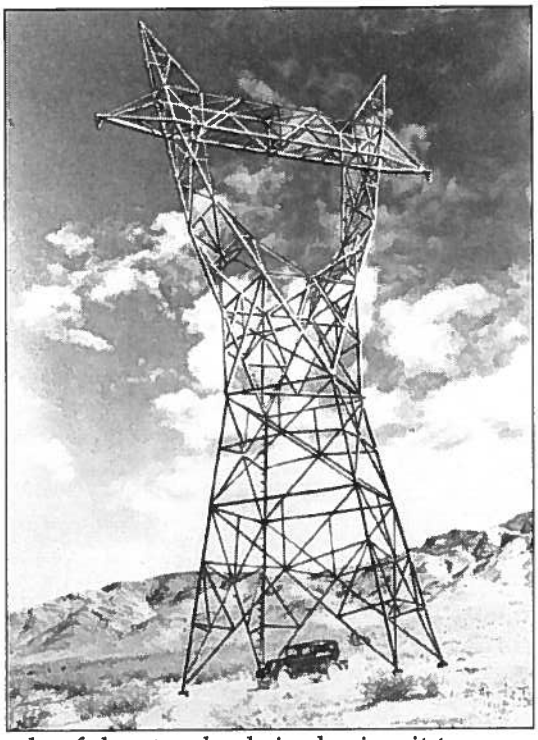


Figure 2: Example of the standard single circuit towers, ca. 1935. From the Historical Photo Collection of the Department of Water and Power, City of Los Angeles.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #
HRI#
Trinomial

 *Resource Name or # (Assigned by recorder) Boulder Dam-Los Angeles 287.5 kV Transmission Line
*Recorded by: Noah M. Stewart , Caltrans, District 7 *Date: ☒ Continuation ☐ Update



Figure 3: Aerial photograph of the Century Receiving Station showing the control house on the upper right, the oil house center left and the yard, ca. 1935. From the Historical Photo Collection of the Department of Water and Power, City of Los Angeles.

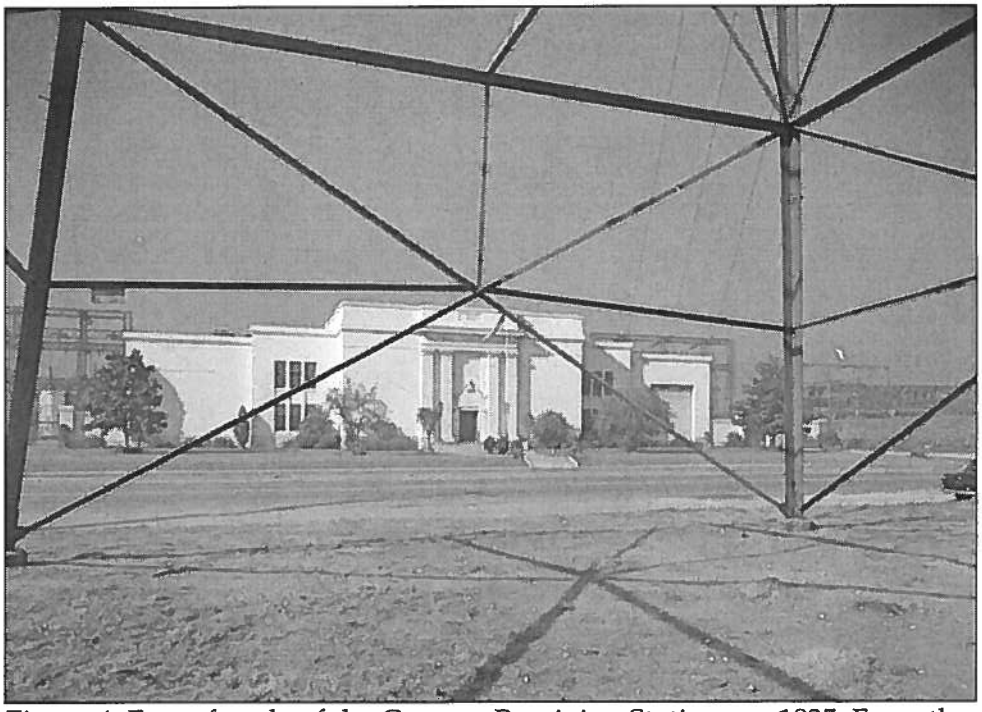
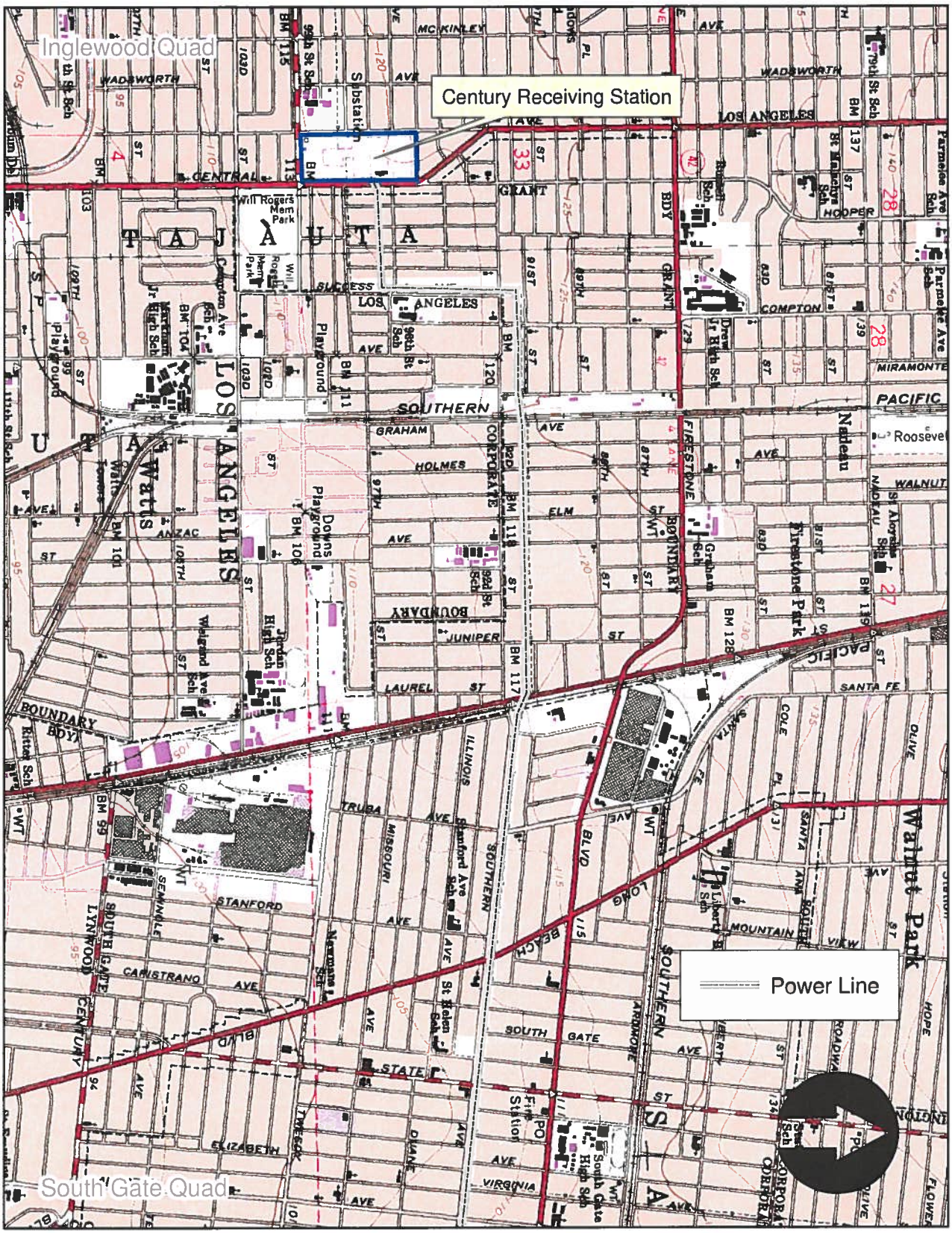


Figure 4: Front façade of the Century Receiving Station, ca. 1935. From the Historical Photo Collection of the Department of Water and Power, City of Los Angeles.

State of California - The Resources Agency	Primary #
DEPARTMENT OF PARKS AND RECREATION	HRI#
LOCATION MAP	Trinomial

Page 6 of 18 *Resource Name or #: Boulder Dam-Los Angeles 287.5 Transmission Line

*Map Name: Inglewood and South Gate *Scale: 1:24,000 *Date of Map:



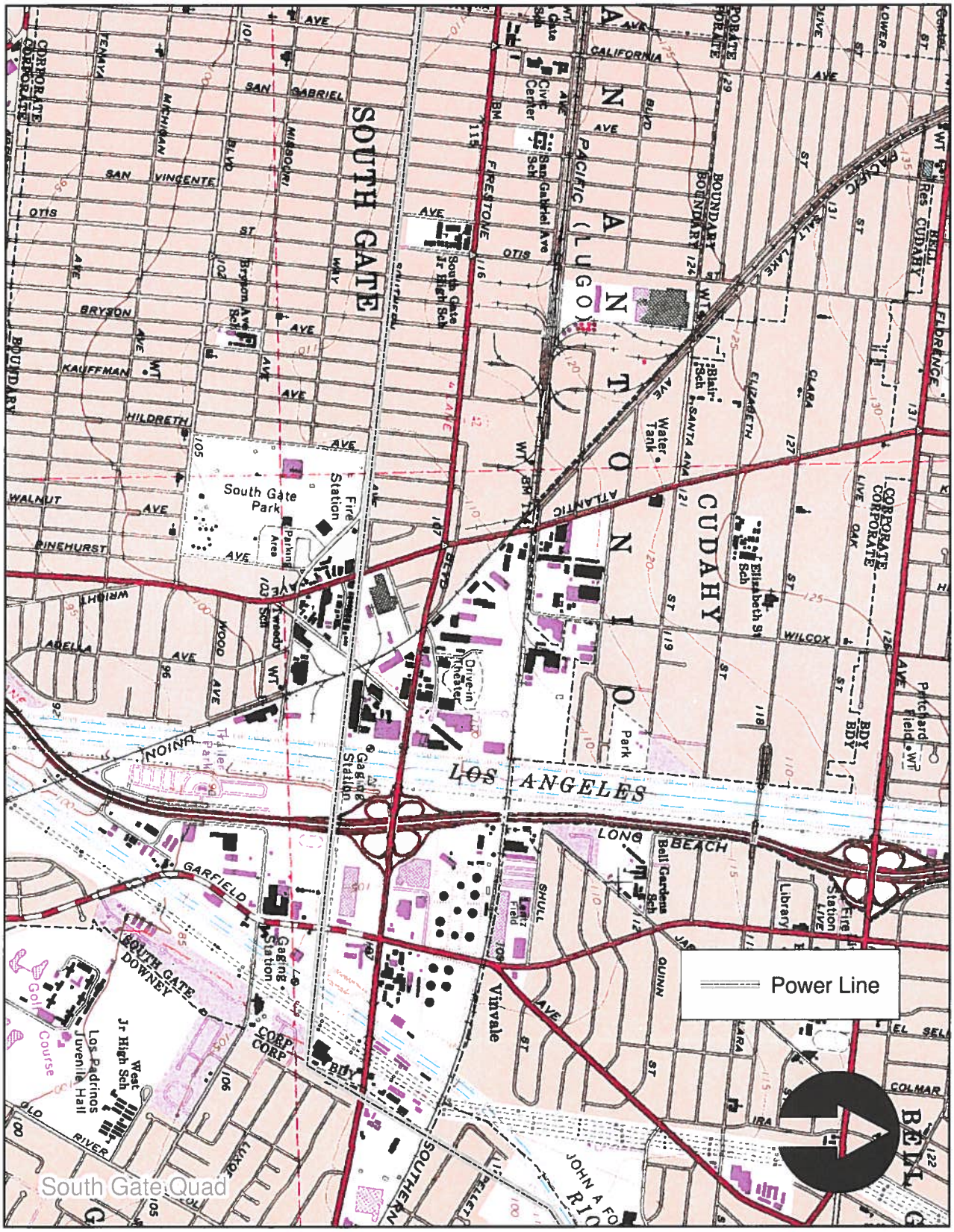
DPR 523J (1/95) *Required Information

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

Page 7 of 18 *Resource Name or #: Boulder Dam-Los Angeles 287.5 Transmission Line

*Map Name: South Gate *Scale: 1:24,000 *Date of Map:



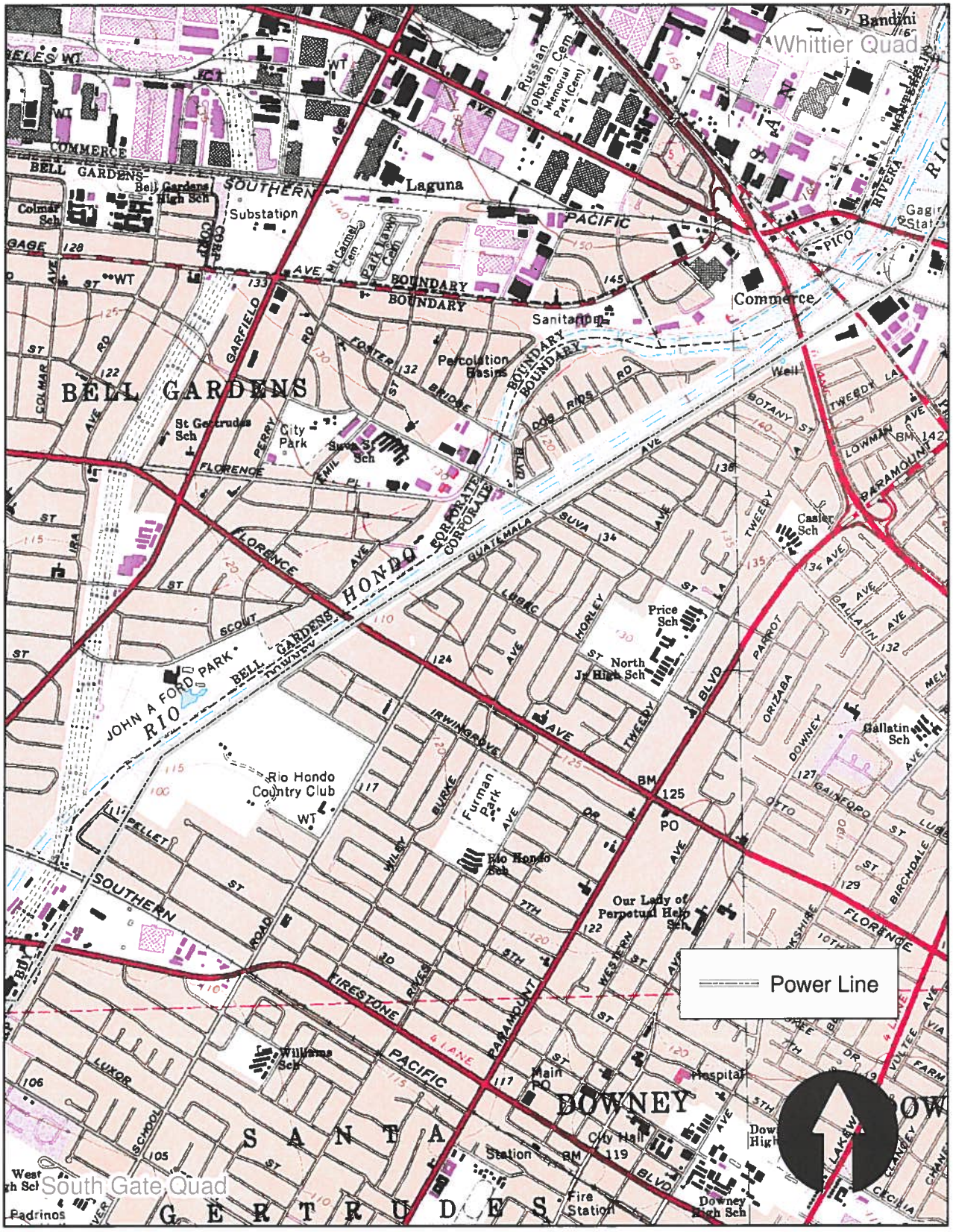
DPR 523J (1/95) *Required Information

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

Page 8 of 18 *Resource Name or #: Boulder Dam-Los Angeles 287.5 Transmission Line

*Map Name: South Gate and Whittier *Scale: 1:24,000 *Date of Map:



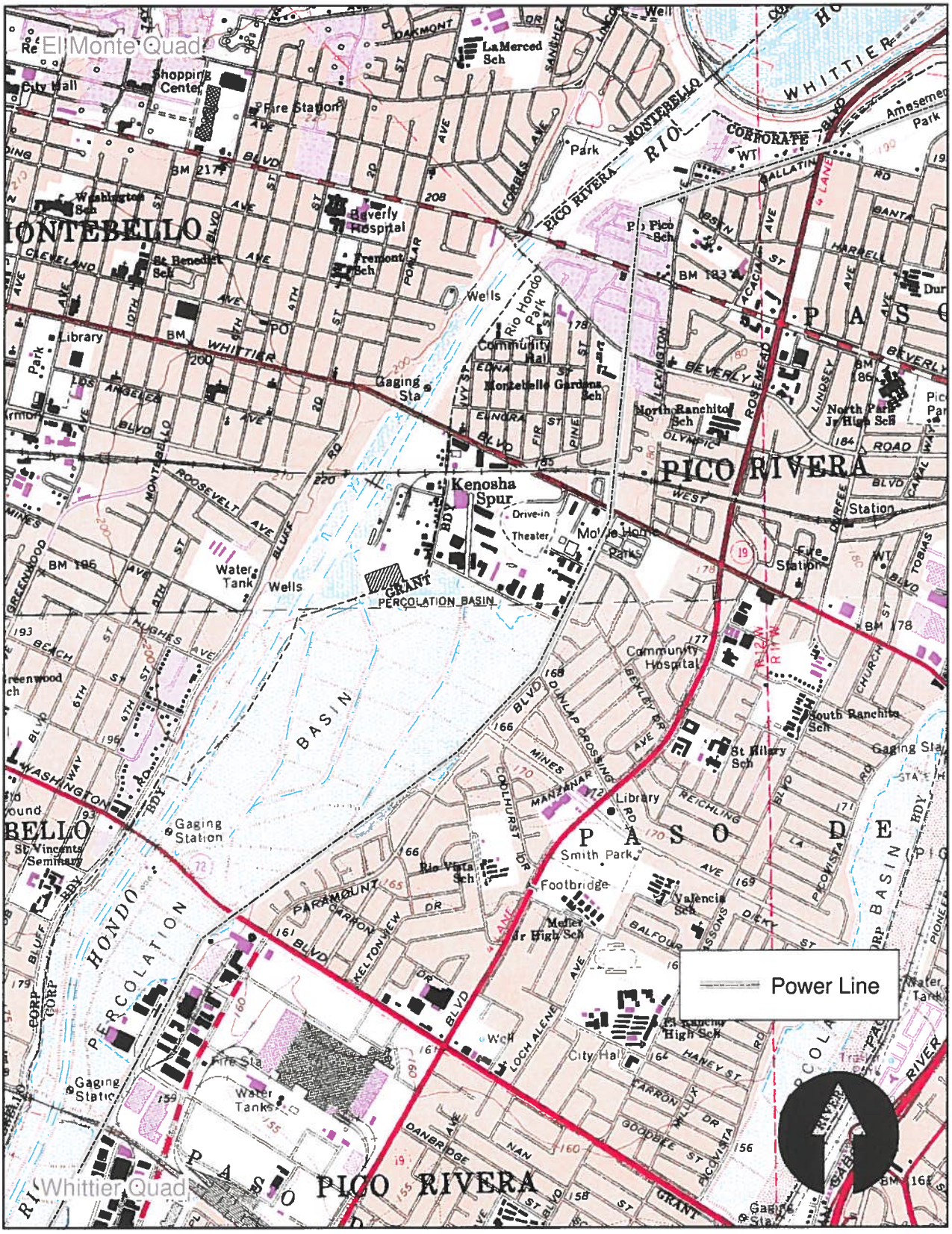
DPR 523J (1/95) *Required Information

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

Page 9 of 18 *Resource Name or #: Boulder Dam-Los Angeles 287.5 Transmission Line

*Map Name: Whittier and El Monte *Scale: 1:24,000 *Date of Map:



DPR 523J (1/95) *Required Information

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

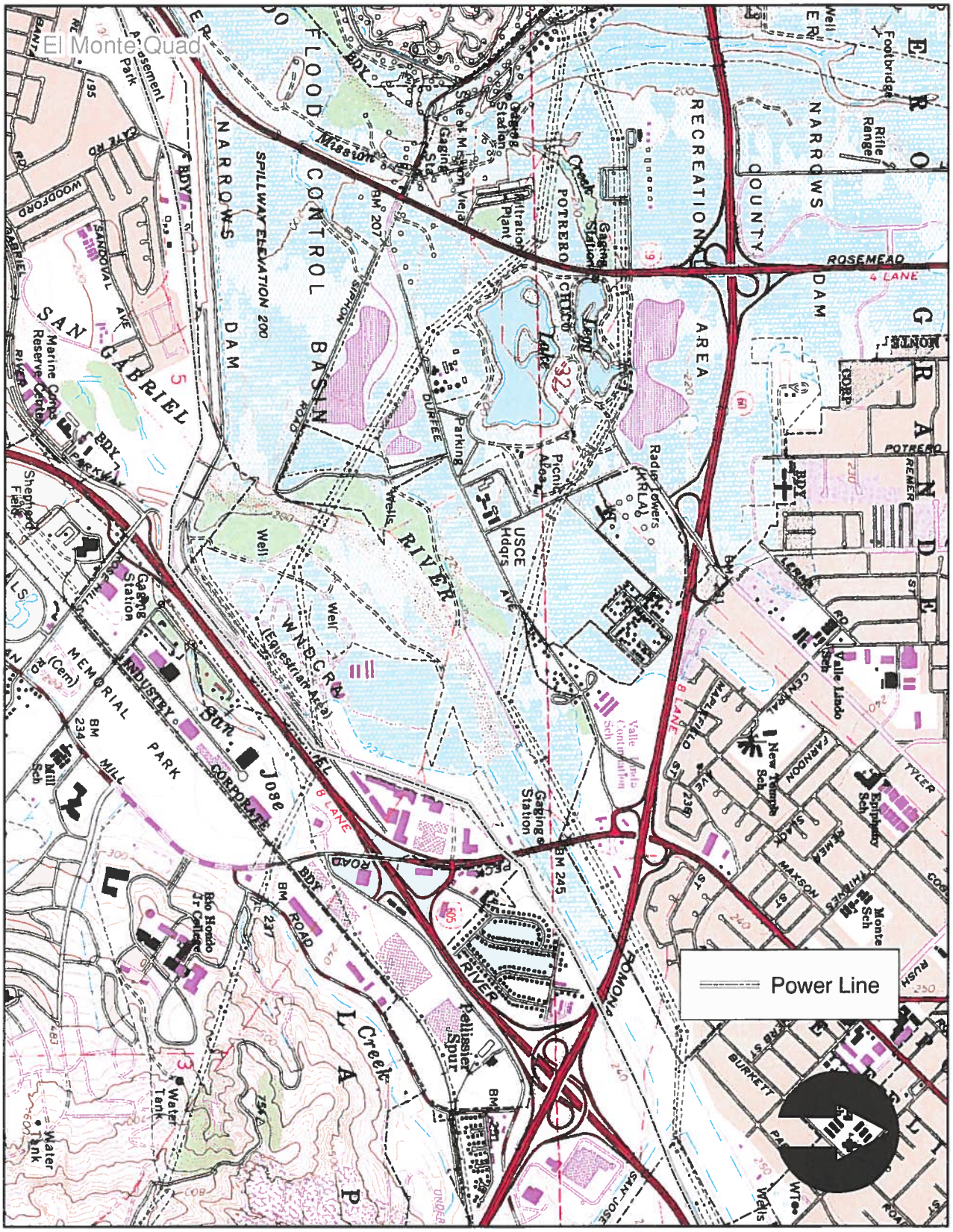
Primary #
HRI#
Trinomial

Page 10 of 18

*Resource Name or #: Boulder Dam-Los Angeles 287.5 Transmission Line

*Map Name: El Monte

*Scale: 1:24,000 *Date of Map:



DPR 523J (1/95)

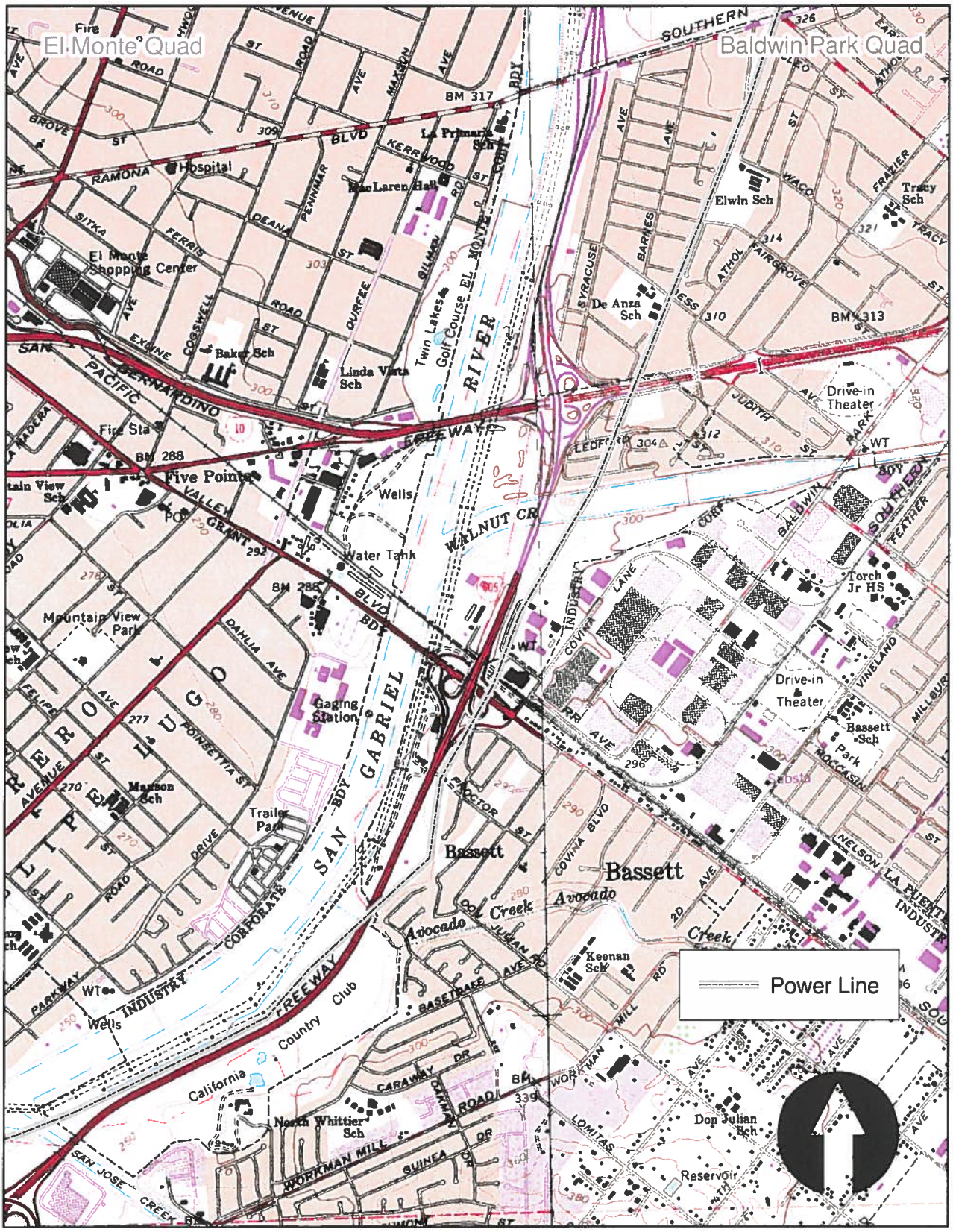
*Required Information

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

Page 11 of 18 *Resource Name or #: Boulder Dam-Los Angeles 287.5 Transmission Line

*Map Name: El Monte and Baldwin Park *Scale: 1:24,000 *Date of Map:



DPR 523J (1/95) *Required Information

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

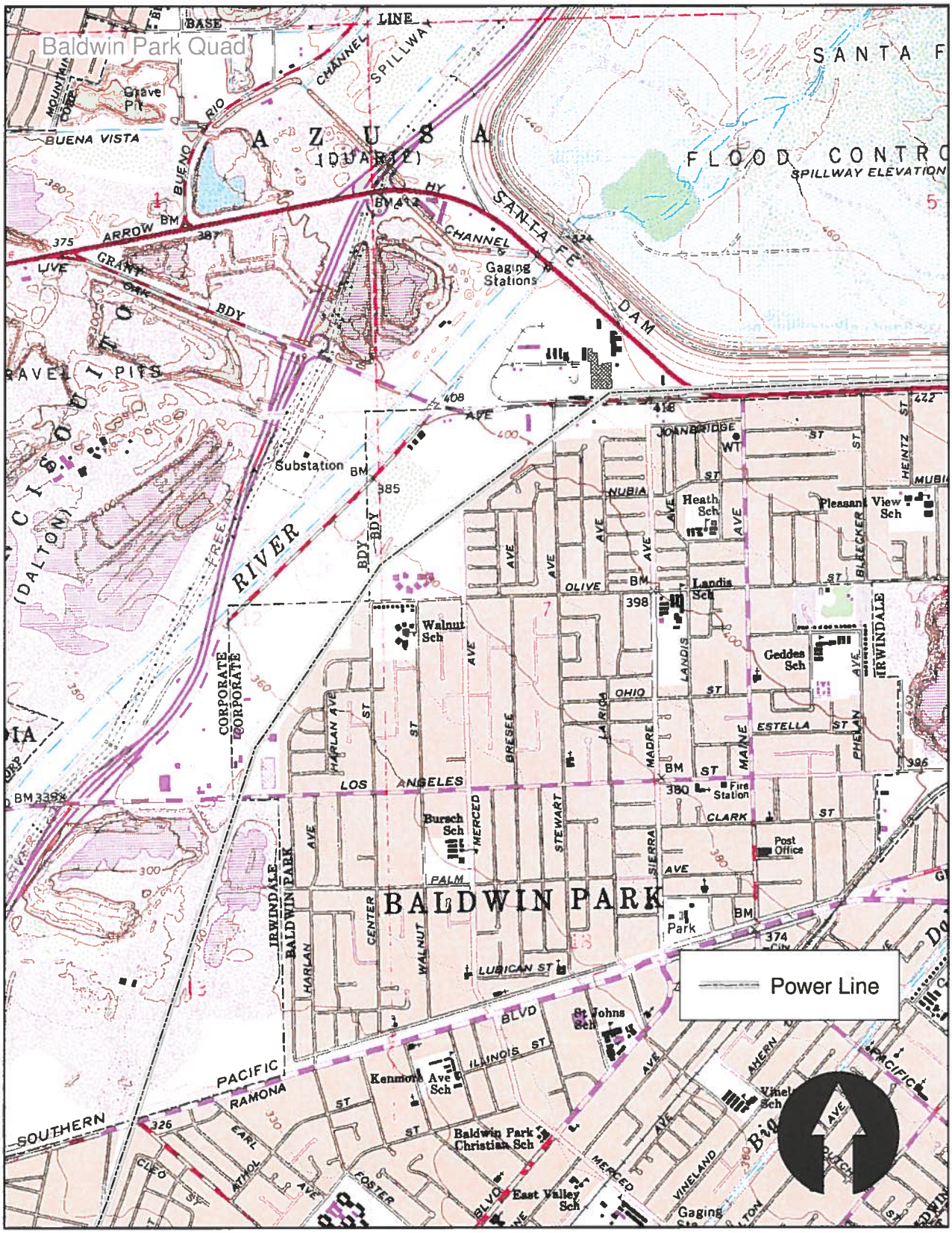
Primary #
HRI#
Trinomial

Page 12 of 18

*Resource Name or #: Boulder Dam-Los Angeles 287.5 Transmission Line

*Map Name: Baldwin Park

*Scale: 1:24,000 *Date of Map:



DPR 523J (1/95)

*Required Information

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

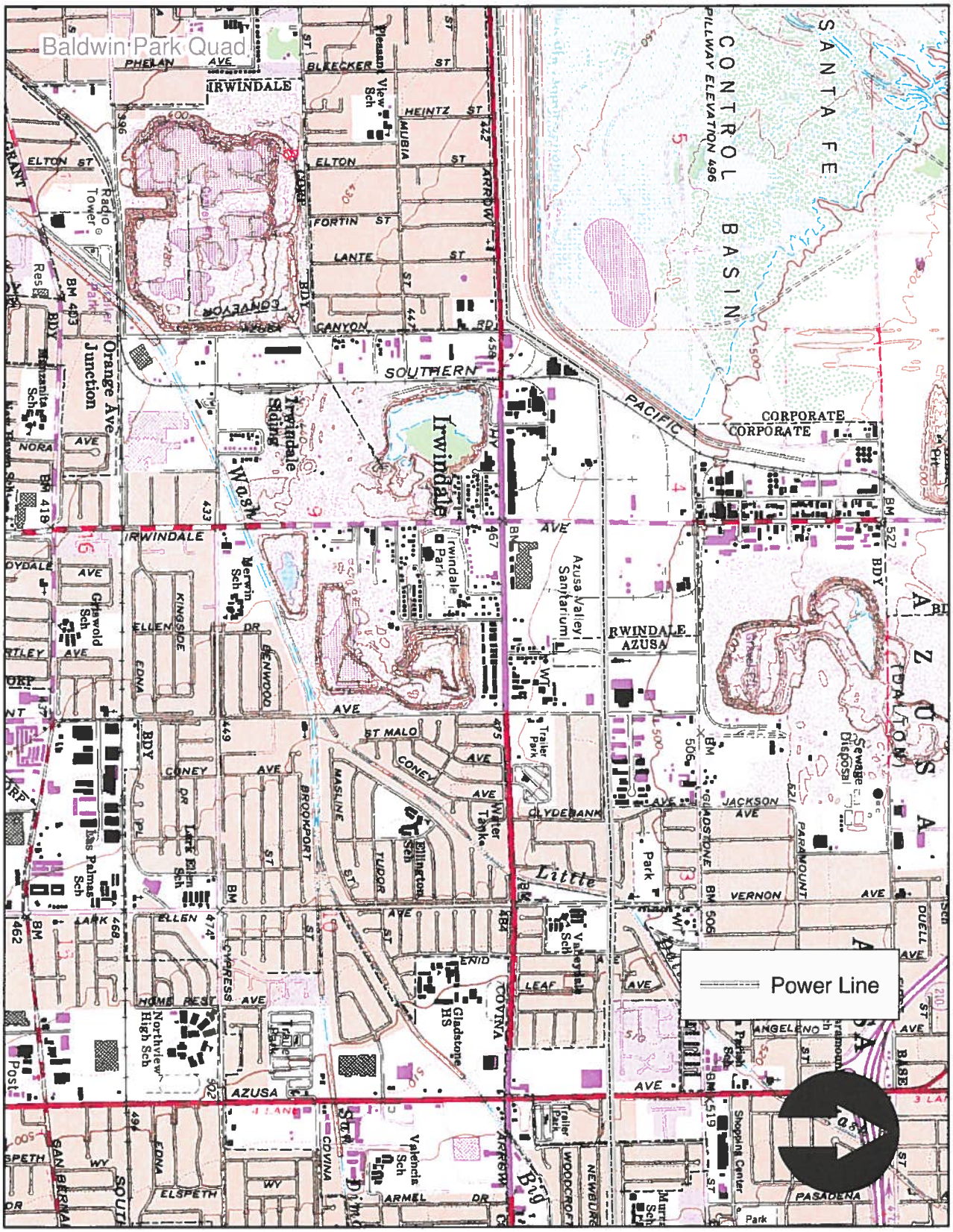
Primary #
HRI#
Trinomial

Page 13 of 18

*Resource Name or #: Boulder Dam-Los Angeles 287.5 Transmission Line

*Map Name: Baldwin Park

*Scale: 1:24,000 *Date of Map:



DPR 523J (1/95)

*Required Information

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

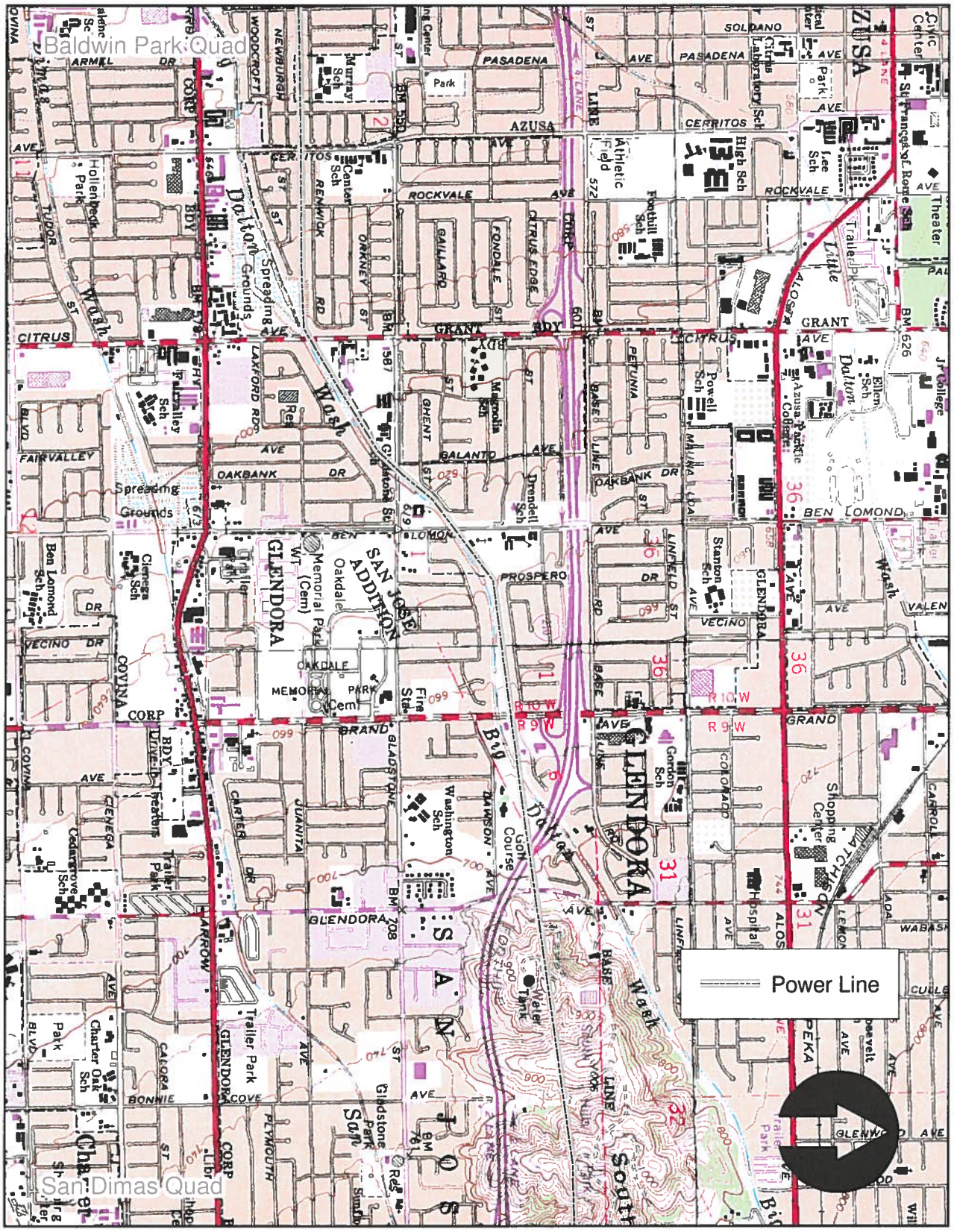
Primary #
HRI#
Trinomial

Page 14 of 18

*Resource Name or #: Boulder Dam-Los Angeles 287.5 Transmission Line

*Map Name: Baldwin Park and San Dimas

*Scale: 1:24,000 *Date of Map:



DPR 523J (1/95)

*Required Information

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

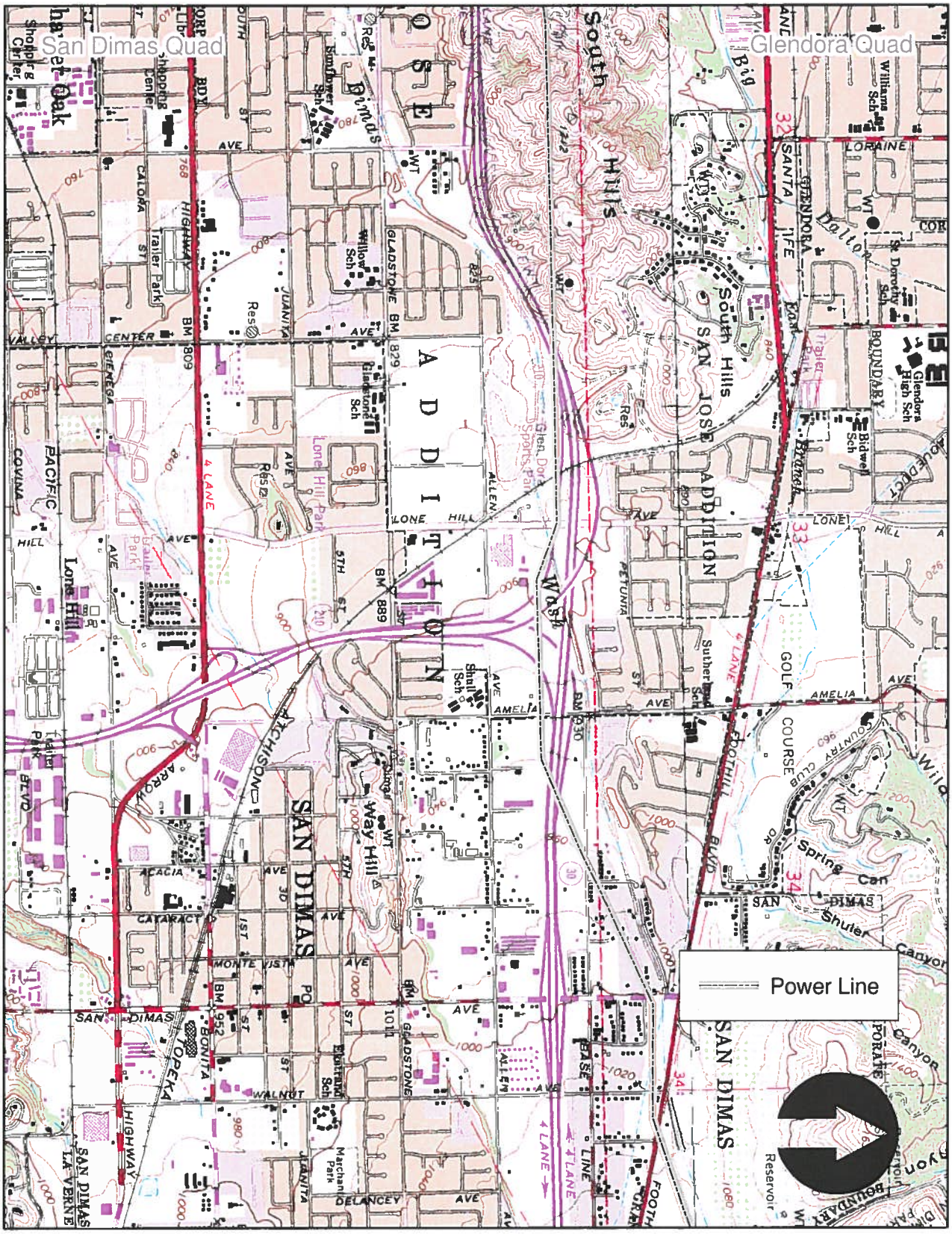
Primary #
HRI#
Trinomial

Page 15 of 18

*Resource Name or #: Boulder Dam-Los Angeles 287.5 Transmission Line

*Map Name: San Dimas and Glendora

*Scale: 1:24,000 *Date of Map:



DPR 523J (1/95)

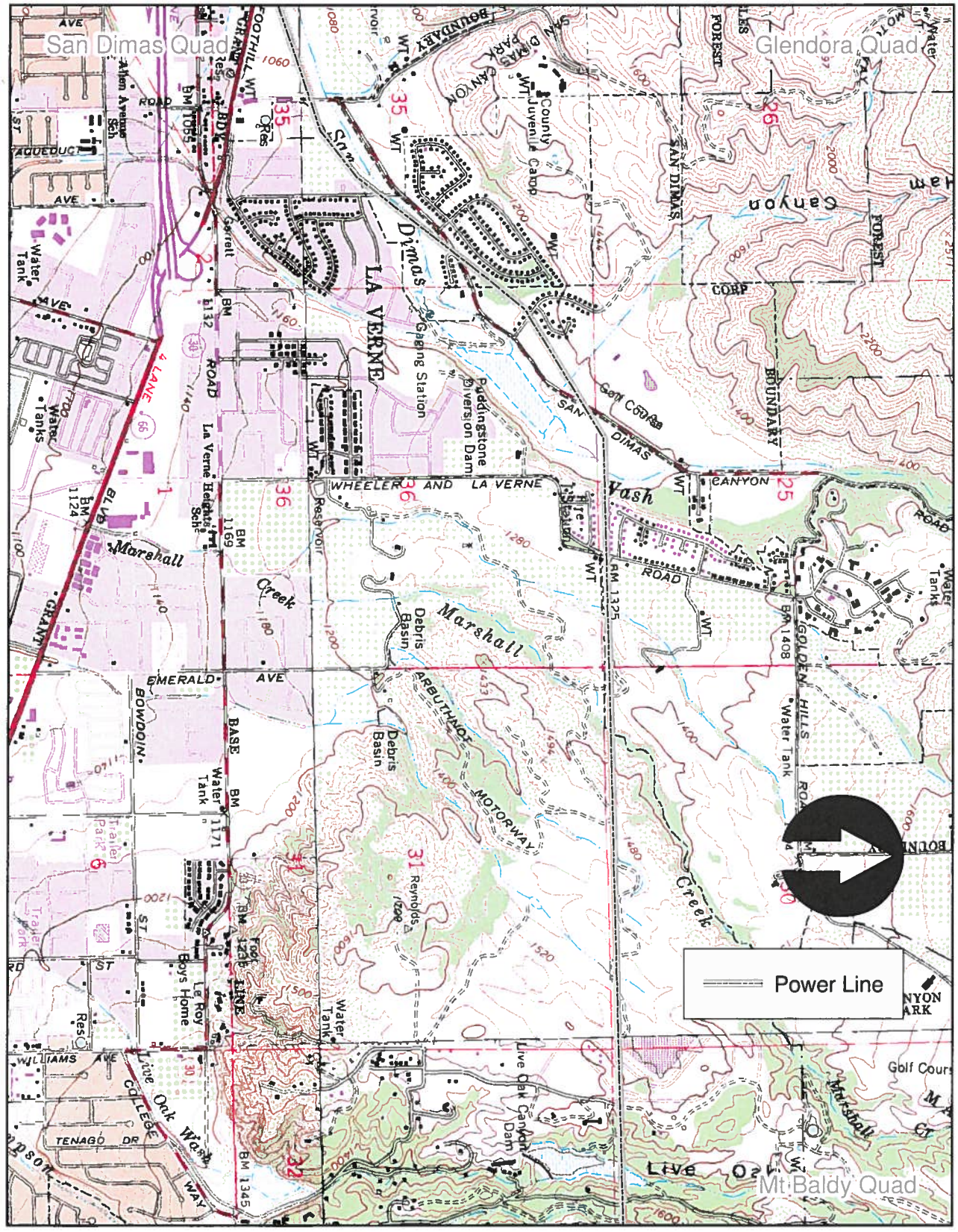
*Required Information

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

Page 16 of 18 *Resource Name or #: Boulder Dam-Los Angeles 287.5 Transmission Line

*Map Name: San Dimas, Glendora and Mt Baldy *Scale: 1:24,000 *Date of Map:



DPR 523J (1/95) *Required Information

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

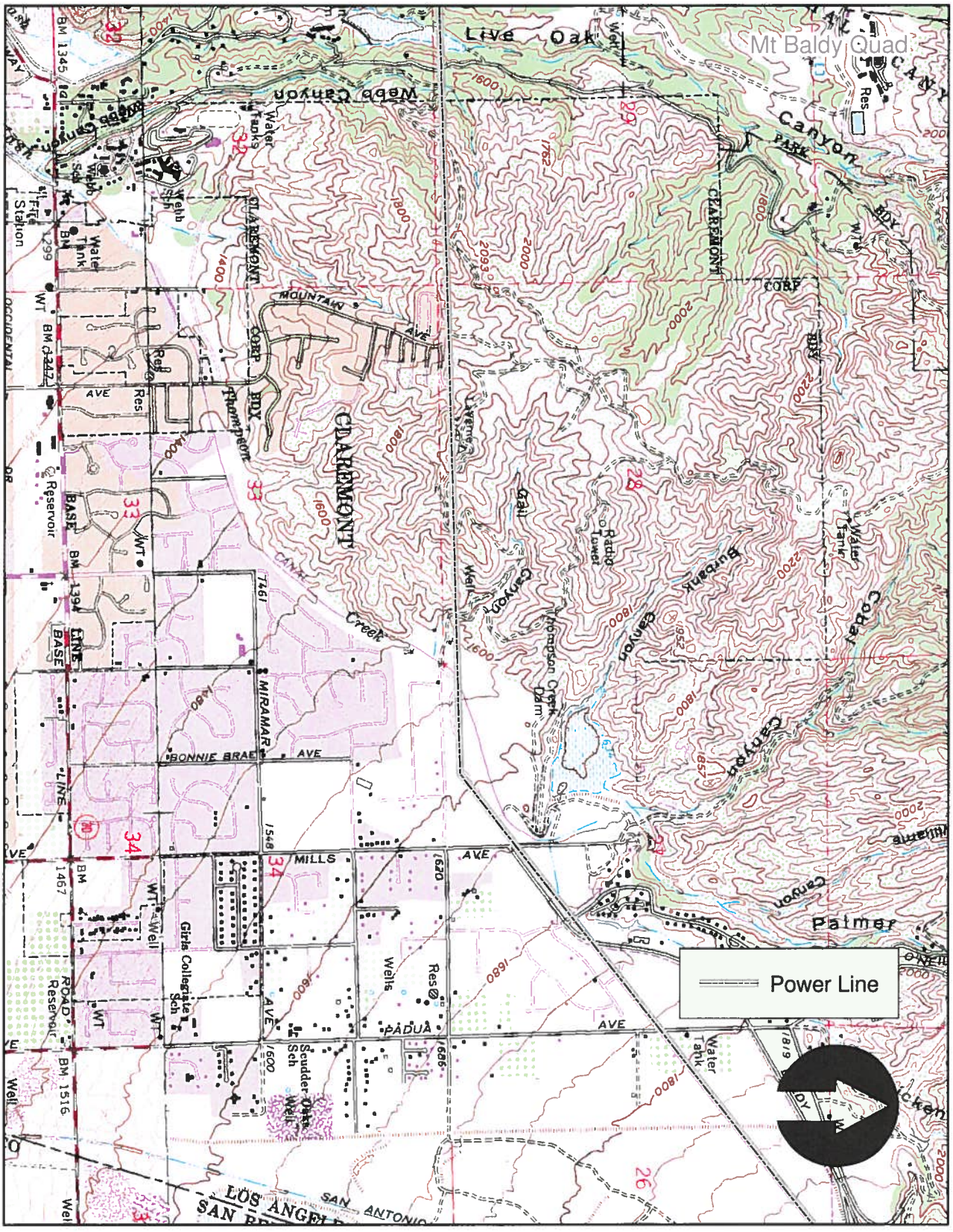
Primary #
HRI#
Trinomial

Page 17 of 18

*Resource Name or #: Boulder Dam-Los Angeles 287.5 Transmission Line

*Map Name: Mt Baldy

*Scale: 1:24,000 *Date of Map:



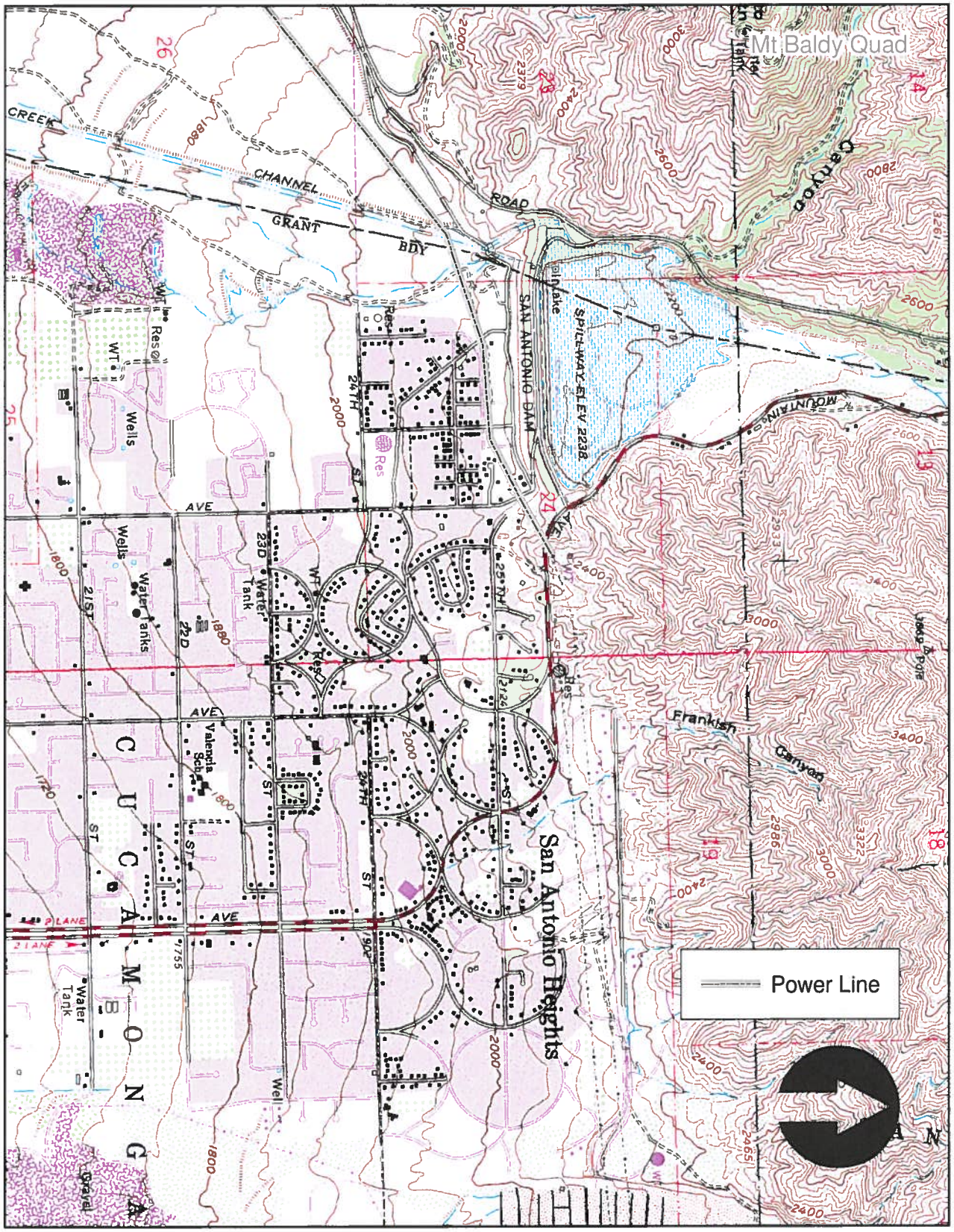
DPR 523J (1/95)

*Required Information

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

Page 18 of 18
*Resource Name or #: Boulder Dam-Los Angeles 287.5 Transmission Line
*Map Name: Mt Baldy
*Scale: 1:24,000 *Date of Map:



DPR 523J (1/95)
*Required Information

A segment of the Boulder Dam-Los Angeles 287.5 kV Transmission Line, including cables and two double circuit towers (see Photograph), was included in the survey for the Groundwater Reliability Improvement Program (GRIP) Recycled Water Project. On February 20, 2013, Heather Gibson and Marc Beherec conducted a cultural resources survey and observed the 1,670-foot segment of the resource. Two double circuit towers were also observed. There did not appear to be any alterations to the resource since it was last recorded by Caltrans in 2008 (Stewart 2008).

The Boulder Dam-Los Angeles 287.5 kV Transmission Line, including this segment, was determined eligible for the NRHP in 1999 (Van Wormer and Dolan 1999). There have been no significant alterations, and this segment contributes to the NRHP-eligible resource. It is considered a contributing feature of a NRHP-eligible historic property.



Boulder Dam-Los Angeles 287.5 kV Transmission Line (P-19-188983). View to Southwest.

REFERENCES:

Stewart, Noah M. 2008 *Department of Parks and Recreation Site Records, P-19-188983.* Report on file, South Central Coastal Information Center, California State University, Fullerton.

Van Wormer, Stephen and Christy Dolan. 1999. National Register of Historic Places Registration Form: Boulder Dam-Los Angeles 287.5 kV Transmission Line. San Diego: KEA Environmental for the U.S. Department of the Interior, BLM.

State of California — The Resources Agency	Primary #	19-188983 (Update)
DEPARTMENT OF PARKS AND RECREATION	HRI #	
PRIMARY RECORD	Trinomial	
	NRHP Status Code:	2B
	Other Listings	
Review Code	Reviewer	Date

***Resource Name or #:** Boulder Dam – Los Angeles 287.5kV Transmission Line (Los Angeles Department of Water & Power Boulder Lines 1 & 2) **Caltrans Map Reference No.:** 23

P1. Other Identifier:

***P2. Location:** ___ Not for Publication X Unrestricted

***a. County** Los Angeles **County/Route/Postmile:**

***b. USGS 7.5' Quad:** ~~Whittier~~ **Date** 1965, rev. 1981 **T** ___ **;R** ___ **of** ___ **of Sec** ___ ; ___ **B.M.**

c. Address **City** **Zip**

d. UTM:: **Zone** , **mE/** **mN**

***e. Other Locational Data** (APN #, etc.) Baldwin Park, Pico Rivera, Downey

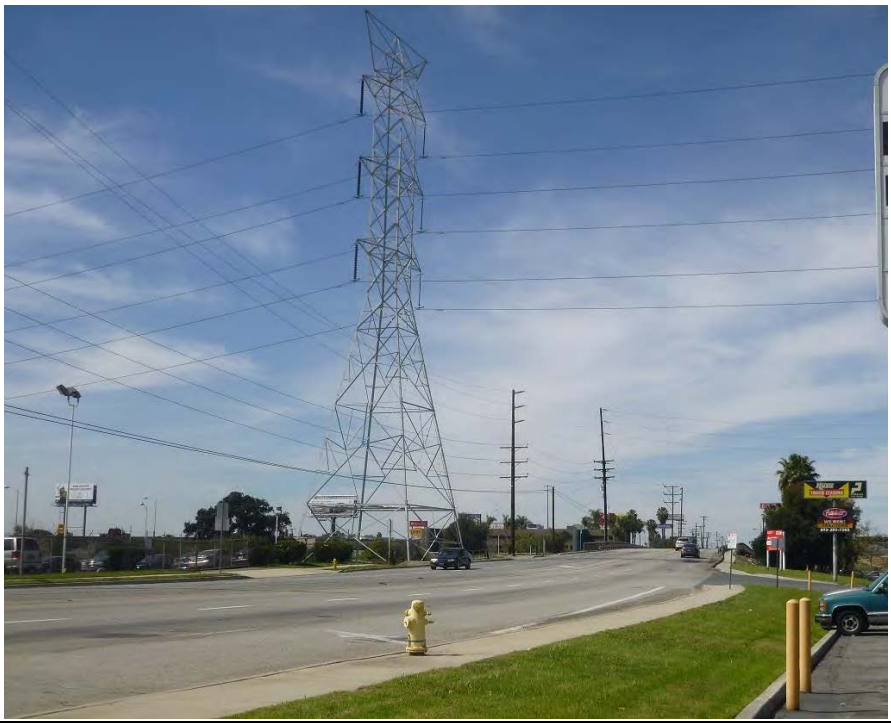
***P3a. Description:** (Briefly describe resource below)

This update form is for three segments of the 270-mile-long Boulder Dam – Los Angeles 287.5 kV transmission line which runs from the Hoover Dam in Nevada west to the Century Receiving Station near Watts, in Los Angeles County, California. Specifically, these segments are located on the single row of double circuit towers line which descends from Upland, California over the Los Angeles Basin, running 41 miles south/southwest to the receiving station at Watts. Character-defining features of the line include the HH cables, skewed single circuit towers, route of line and associated direct access road, and double circuit towers. Three segments of this linear resource are documented in this update form: 1.) An approximately 1,545' segment in the Baldwin Park Vicinity; 2.) An approximately seven-mile long segment with its northern terminus in the southern portion of Baldwin Park continuing southward toward Pico Rivera; 3.) An approximately three-mile long segment between Pico Rivera and Downey. Please see the attached linear feature records for specific information regarding each segment.

***P3b. Resource Attibutes:** HP 11. Engineering Structure, H39. Other

****P4. Resources Present:** ___ Building X Structure ___ Object ___ Site ___ District ___ Elements of District ___ Other

P5a. . Photograph or Drawing (Photograph required for buildings, structures, and objects.)



P5b. Description of Photo: Looking southwest across Telegraph Road at Santa Ana Freeway (I-5) towards the overhead lines (vicinity of 7875 Telegraph Road, Pico Rivera) (ICF, 5/17/2018)

***P6. Date Constructed/Age:** 1936-1953 (NRHP nomination, 2000)
X Historic Prehistoric Both

***P7. Owner and Address:** Los Angeles Department of Water and Power
221 N. Figueroa Street,
Room 1600,
Los Angeles, CA 90012

***P8. Recorded by:** Jessica B. Feldman,
ICF
555 W. 5th Street, Suite 3100
Los Angeles, CA 90013

***P9. Date Recorded:** 5/17/2018

***P10. Type of Survey:** Intensive Reconnaissance X Other
Describe: Section 106 Compliance

***P11. Report Citation:** HRER for the I-605 Corridor Improvement Project PA/ED, 2019

***Attachments:** ___ NONE X Map Sheet X Continuation Sheet ___ Building, Structure and Object Record
X Linear Resource Record ___ Archaeological Record ___ District Record ___ Milling Station Record ___ Rock Art Record
___ Artifact Record ___ Photograph Record ___ Other (List):

L7. Integrity Considerations:

Recent modifications, other than routine maintenance, are not known. The cables are assumed to be aluminum and not copper; their general alignment and connection to the associated towers appears to be intact based on field surveys.

Evaluation:

This entire linear resource was evaluated for National Register eligibility in 1999 and found eligible under Criteria A and C. Under Criterion A, the entire transmission line is eligible for the National Register for its association with the construction of Boulder Dam, a National historic Landmark and water reclamation and irrigation project of exceptional importance to the American Southwest, as well as for its association with the industrial, economic, and urban development that occurred in metropolitan Los Angeles from the mid-1930s through the 1940s. Under Criterion C, the transmission line is eligible for the National Register owing to its unique engineering and structural characteristics – at the time, this transmission line was highest commercial operating voltage in the world, and carried 275kV across 270 miles of desert and mountains.

Character-defining features of the line include the HH cables, skewed single circuit towers, route of line and associated direct access road, and double circuit towers. Therefore, this 40 mile long segment of overhead transmission line is a contributing feature of a much large NRHP-eligible historic linear feature. Despite minor modifications, primarily from copper to aluminum materials, the wires are essential characteristics of the linear resource and continue to provide evidence of the original tower/cable configurations and the delivery of high voltage power over long distance. As a result, this segment of the Boulder Dam-Los Angeles 287.5 kV Transmission Line appear to continue to contribute to the overall NRHP-eligible property.

"Constructed by the Los Angeles Department of Power and Water between 1933 and 1936, the Boulder Dam – Los Angeles 287.5 kV Transmission Line represents a pinnacle of technological achievement in the development of the City of Los Angeles from the mid-1930s through the 1940s."

References:

Hayes, Brian. *Infrastructure. A Field Guide for the Industrial Landscape*. W.W. Norton & Company: New York, NY. 2005.

Van Wormer, Stephen and Christy Dolan. *Boulder Dam – Los Angeles 287.5 kV Transmission Line*. National Register of Historic Places Registration Form. 2000.

State of California — The Resources Agency	Primary #	19-188983 (Update)
DEPARTMENT OF PARKS AND RECREATION	HRI#	
LINEAR FEATURE RECORD	Trinomial	

Resource Identifier: Boulder Dam – Los Angeles 287.5kV Transmission Line (Los Angeles Department of Water & Power Boulder Lines 1 & 2)

Caltrans Map Reference No.: 23

County/Route/Postmile:

L1. Historic and/or Common Name: LADWP Boulder Lines 1 & 2, Upland to Watts section (Baldwin Park vicinity segment only)

L2a. Portion Described: ___ Entire Resource X Segment ___ Point Observation **Designation:**

b. Location of point or segment: (Provide below UTM coordinates, legal description, other useful locational data. Show the field-inspected area on Location Map)

Segment 1: ~1,545 feet of alignment in Baldwin Park, beginning at a tower just south of Farnell Street, crossing Walnut Creek to the south and connecting to towers in the vicinity of 263 N. Covina Lane in La Puente. Please see location map.

L3. Description:

Close-up visual observation of this segment was limited due to lack of access; however, these are tapered concrete monopoles with three sets of arms on one side, near the top of the pole. Other materials include the wires and insulation material.

L4. Dimensions:

(In feet for historic, meters for prehistoric resources)

- **a. Top Width:** n/a
- **b. Bottom Width:** n/a
- **c. Height or Depth:** n/a
- **d. Length of Segment:** 1,545 feet

L5. Associated Resources: (list below)

L4e. Sketch of Cross-Section (include scale) **Facing:** N/A

L6. Setting: (briefly describe below)

Transmission corridor right-of-way typically includes a paved or unpaved access road. Setting is urban, often parallel to, or intersecting, roads and freeways, or flood control channels.

L7. Integrity Considerations: (briefly describe below)

It was observed that despite modifications to materials and workmanship, primarily the result of replacement of the original type of tower, this resource continues to provide evidence of the original tower/cable configurations and the delivery of high voltage power over a long distance.

L8a. Photograph, Map or Drawing



L8b. Description of Photo/Map/ Drawing (View, scale, etc.)

Image taken from Westcott Avenue (Baldwin Park), looking south towards Interstate 10 (I-10), which shows the type of towers that replaced the original steel lattice towers (ICF, 5/2018)

L9. Remarks:

L10. Form Prepared by: (Name, affiliation, and address)

Jessica B. Feldman
ICF
555 W. 5th Street
Los Angeles, CA 90013

L11. Date: December 11, 2018

Resource Identifier: Boulder Dam – Los Angeles 287.5kV Transmission Line (Los Angeles Department of Water & Power Boulder Lines 1 & 2)

Caltrans Map Reference No.: 23

County/Route/Postmile:

L1. Historic and/or Common Name: LADWP Boulder Lines 1 and 2, Upland to Watts section (Baldwin Park to Pico Rivera segment only)

L2a. Portion Described: ___ Entire Resource X Segment ___ Point Observation **Designation:**

b. Location of point or segment: (Provide below UTM coordinates, legal description, other useful locational data. Show the field-inspected area on Location Map)

Segment 2: ~36,500 feet (~7 miles) of alignment beginning in the southern part of Baldwin Park on the east side of the San Gabriel River Freeway (Interstate 605/I-605). The transmission line continues in a south/southwest configuration, crossing the highway and continuing between I-605 and the San Gabriel River, over a diversion channel, the Pomona Freeway (State Route 60/SR-60), Peck Road and south through the City of Industry. It is located within close proximity of the west side of I-605 in the City of Industry and turns west/southwest near Rose Hills Road and heads into Pico Rivera, where it turns south at Ibsen Street and Paramount Boulevard, terminating just north of Loch Lomond Drive. Please see location map.

L3. Description:

Close visual inspection was not possible due to this being a private property/utility. The primary materials observed are the metal construction of the tower itself and the materials used for the wire and possible insulation materials.

L4. Dimensions:

(In feet for historic, meters for prehistoric resources)

- **a. Top Width:** n/a
- **b. Bottom Width:** n/a
- **c. Height or Depth:** n/a
- **d. Length of Segment:** 1,545 feet

L5. Associated Resources: (list below)

L4e. Sketch of Cross-Section (include scale) **Facing:** N/A

L6. Setting: (briefly describe below)

Transmission corridor right-of-way typically includes a paved or unpaved access road. Setting is urban, often parallel to, or intersecting, roads and freeways, or flood control channels.

L7. Integrity Considerations: (briefly describe below)

It was observed that despite modifications to materials and workmanship, this resource continues to provide evidence of the original tower/cable configurations and the delivery of high voltage power over a long distance.

L8a. Photograph, Map or Drawing



L8b. Description of Photo/Map/ Drawing (View, scale, etc.)

Image looking towards tower (original design) and transmission lines in the vicinity of 471 S. Rall Avenue (La Puente), looking southwest. (ICF, 5/2018)

L9. Remarks:

L10. Form Prepared by: (Name, affiliation, and address)

Jessica B. Feldman
ICF
555 W. 5th Street
Los Angeles, CA 90013

L11. Date: December 11, 2018

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LINEAR FEATURE RECORD

Primary # 19-188983 (Update)
HRI#
Trinomial

Resource Identifier: Boulder Dam – Los Angeles 287.5kV Transmission Line (Los Angeles Department of Water & Power Boulder Lines 1 & 2)

Caltrans Map Reference No.: 23

County/Route/Postmile:

L1. Historic and/or Common Name: LADWP Boulder Lines 1 & 2, Upland to Watts section (Pico River to Downey segment only)

L2a. Portion Described: ___ Entire Resource X Segment ___ Point Observation **Designation:**

b. Location of point or segment: (Provide below UTM coordinates, legal description, other useful locational data. Show the field-inspected area on Location Map)
Segment 3: ~3 miles of alignment between Pico Rivera and Downey. Beginning at approximately Loch Lomond Drive south of Whittier Boulevard and the residential streets to the west of Paramount Boulevard. Much of this corridor is located to the west of the Rio Hondo flood plan. Please see location map

L3. Description:
Metal is the primary construction material for the steel lattice type of tower; other materials include the physical wires as well as any insulation material.

L4. Dimensions:
(In feet for historic, meters for prehistoric resources)

- **a. Top Width:** n/a
- **b. Bottom Width:** n/a
- **c. Height or Depth:** n/a
- **d. Length of Segment:** ~15,000 feet (~3 miles)

L5. Associated Resources: (list below)

L4e. Sketch of Cross-Section (include scale) **Facing:** N/A

L6. Setting: (briefly describe below)
Transmission corridor right-of-way typically includes a paved or unpaved access road. Setting is urban, often parallel to, or intersecting, roads and freeways, or flood control channels.

L7. Integrity Considerations: (briefly describe below)
It was observed that despite modifications to materials and workmanship, this resource continues to provide evidence of the original tower/cable configurations and the delivery of high voltage power over a long distance.

L8a. Photograph, Map or Drawing



L8b. Description of Photo/Map/ Drawing (View, scale, etc.)
Looking northwest towards transmission line from Metro parking lot in the vicinity of 7878 Telegraph Road, ICF, 3/ 2018

L9. Remarks:

L10. Form Prepared by: (Name, affiliation, and address)
Jessica B. Feldman/ICF
555 W. 5th Street
Los Angeles, CA 90013

L11. Date: December 11, 2018

State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION **LOCATION MAP**	Primary #	19-188983 (Update)
	HRI#	
	Trinomial	

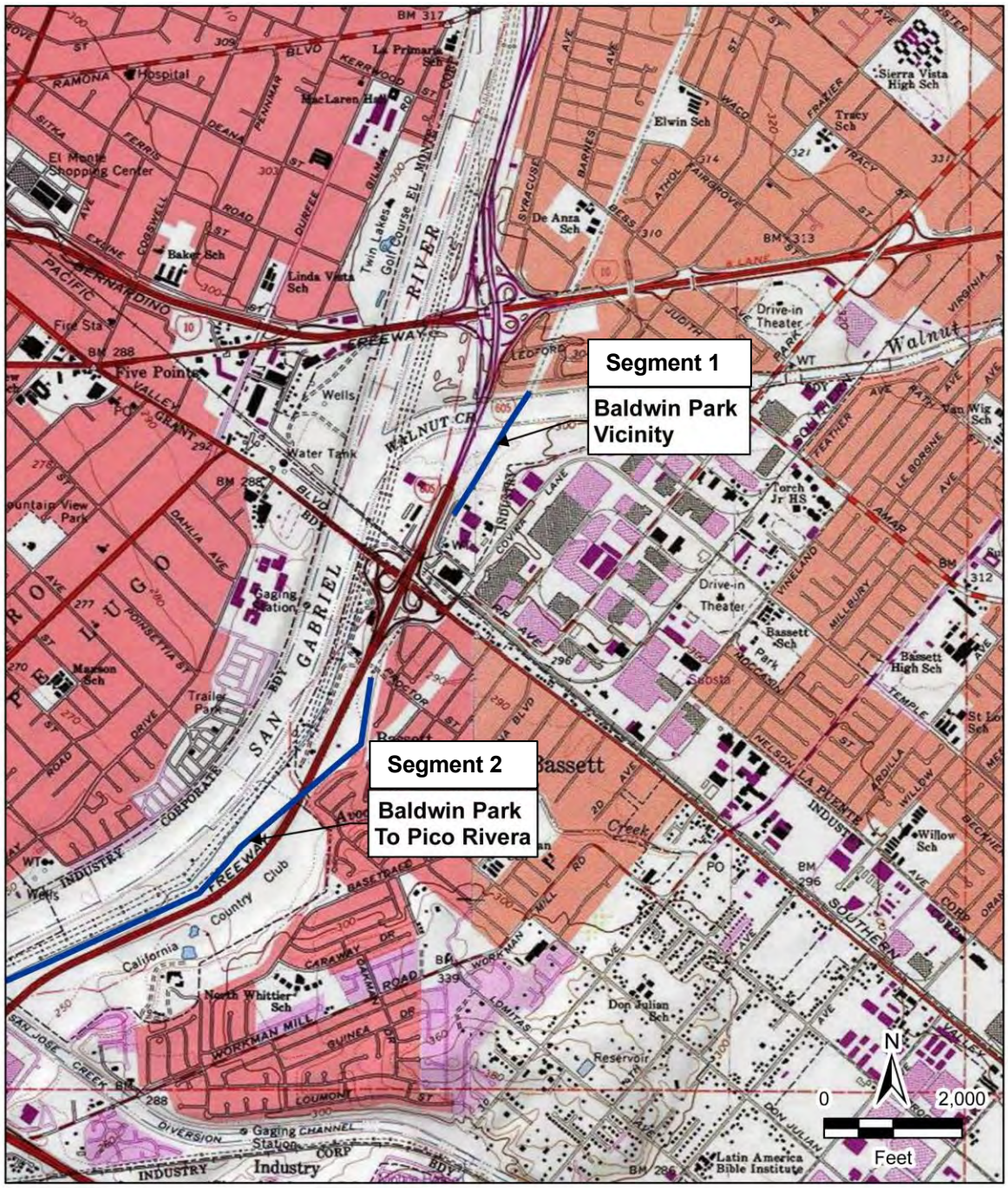
Resource Identifier: Boulder Dam – Los Angeles 287.5kV Transmission Line (Los Angeles Department of Water & Power Boulder Lines 1 & 2)

Caltrans Map Reference No.: 23

County/Route/Postmile:

Map Name: ~~Whittier~~ *Scale: 1:24,000 *Date of Map: 1965; rev. 1981

EL MONTE & BALDWIN PARK QUADS

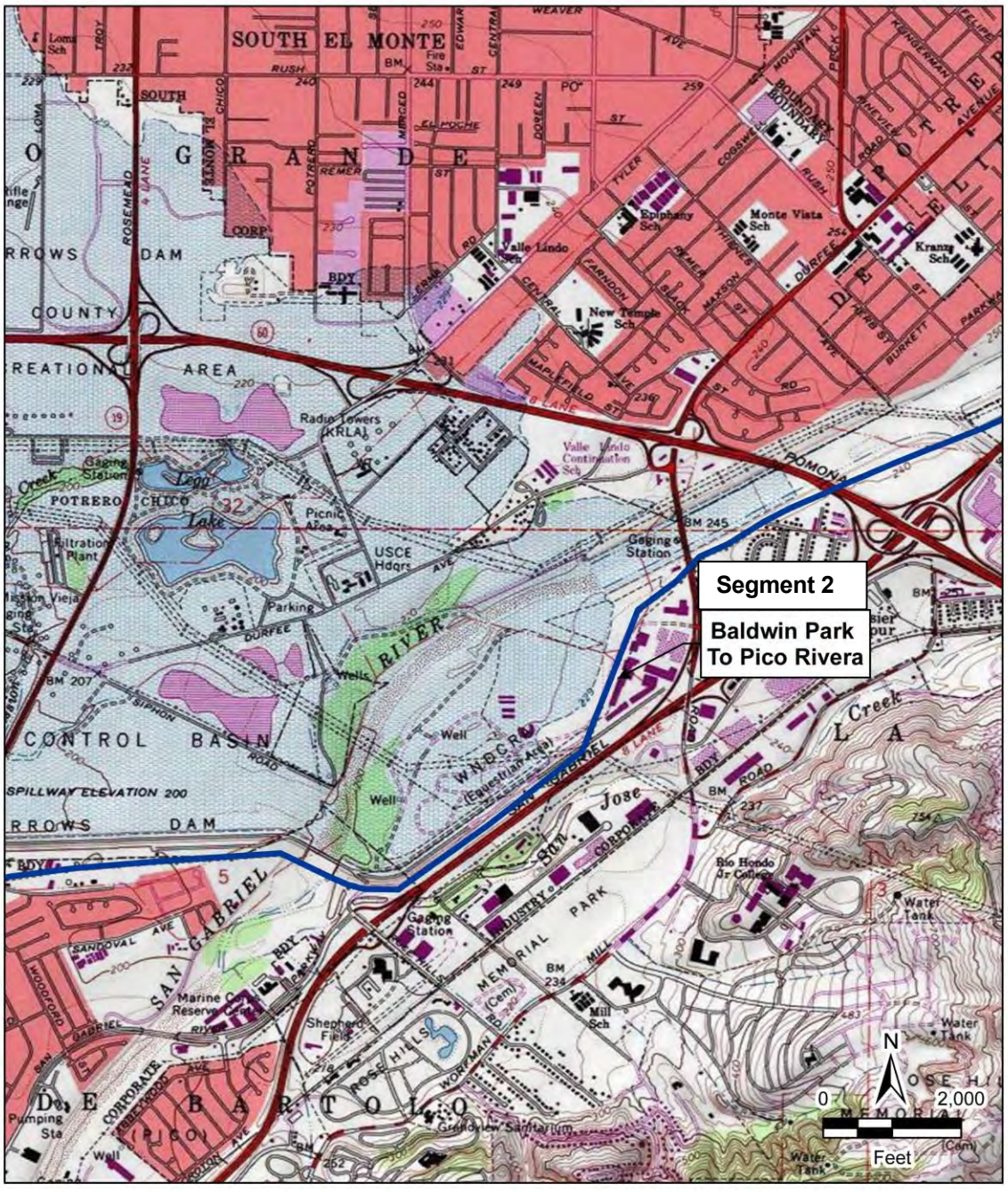


Resource Identifier: Boulder Dam – Los Angeles 287.5kV Transmission Line (Los Angeles Department of Water & Power Boulder Lines 1 & 2)

Caltrans Map Reference No.: 23

County/Route/Postmile:

Map Name: ~~Whittier~~ EL MONTE QUAD *Scale: 1:24,000 *Date of Map: 1965; rev. 1981



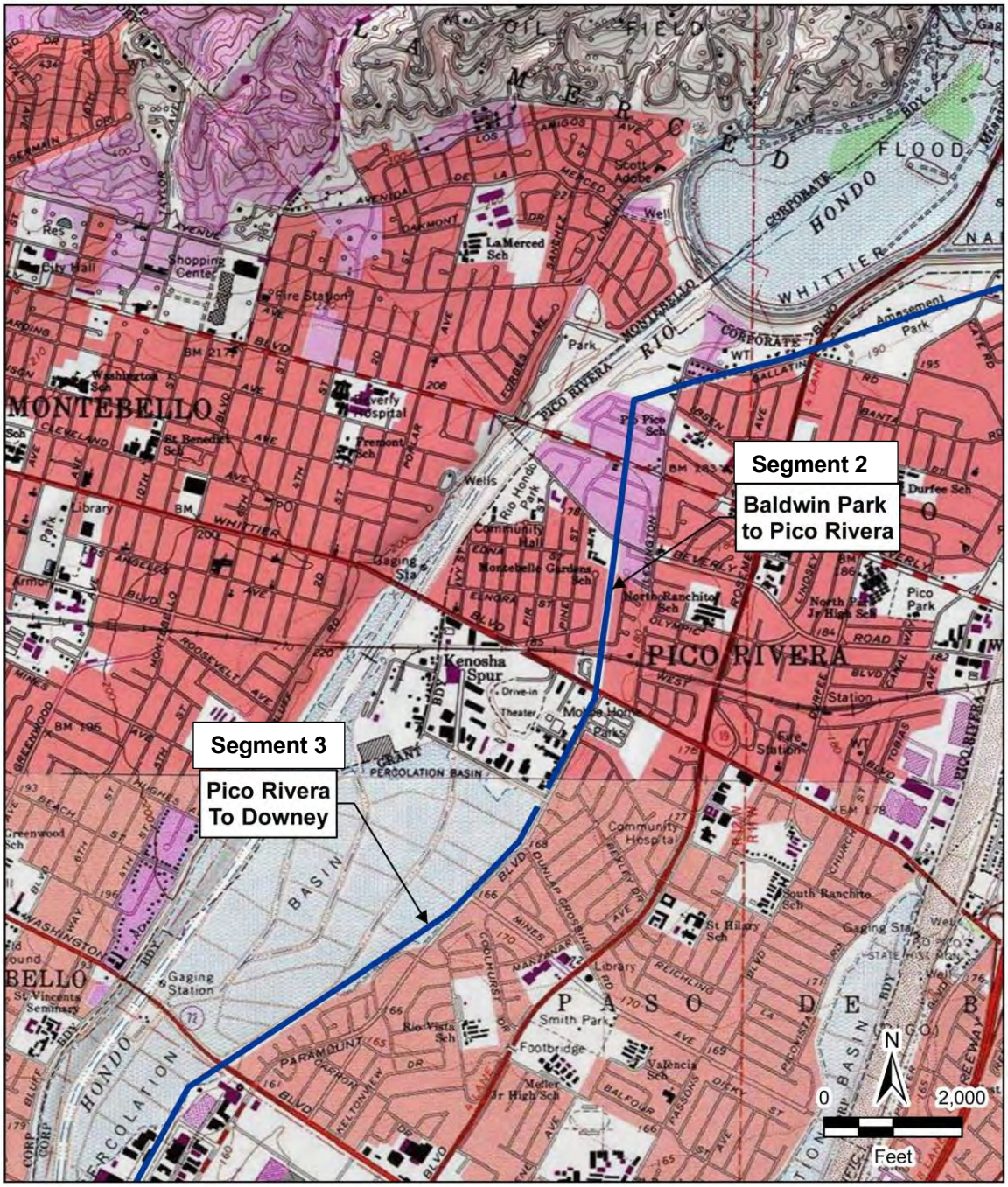
State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION **LOCATION MAP**	Primary #	19-188983 (Update)
	HRI#	
	Trinomial	

Resource Identifier: Boulder Dam – Los Angeles 287.5kV Transmission Line (Los Angeles Department of Water & Power Boulder Lines 1 & 2)

Caltrans Map Reference No.: 23

County/Route/Postmile:

Map Name: ~~Whittier~~ EL MONTE & WHITTIER *Scale: 1:24,000 *Date of Map: 1965; rev. 1981



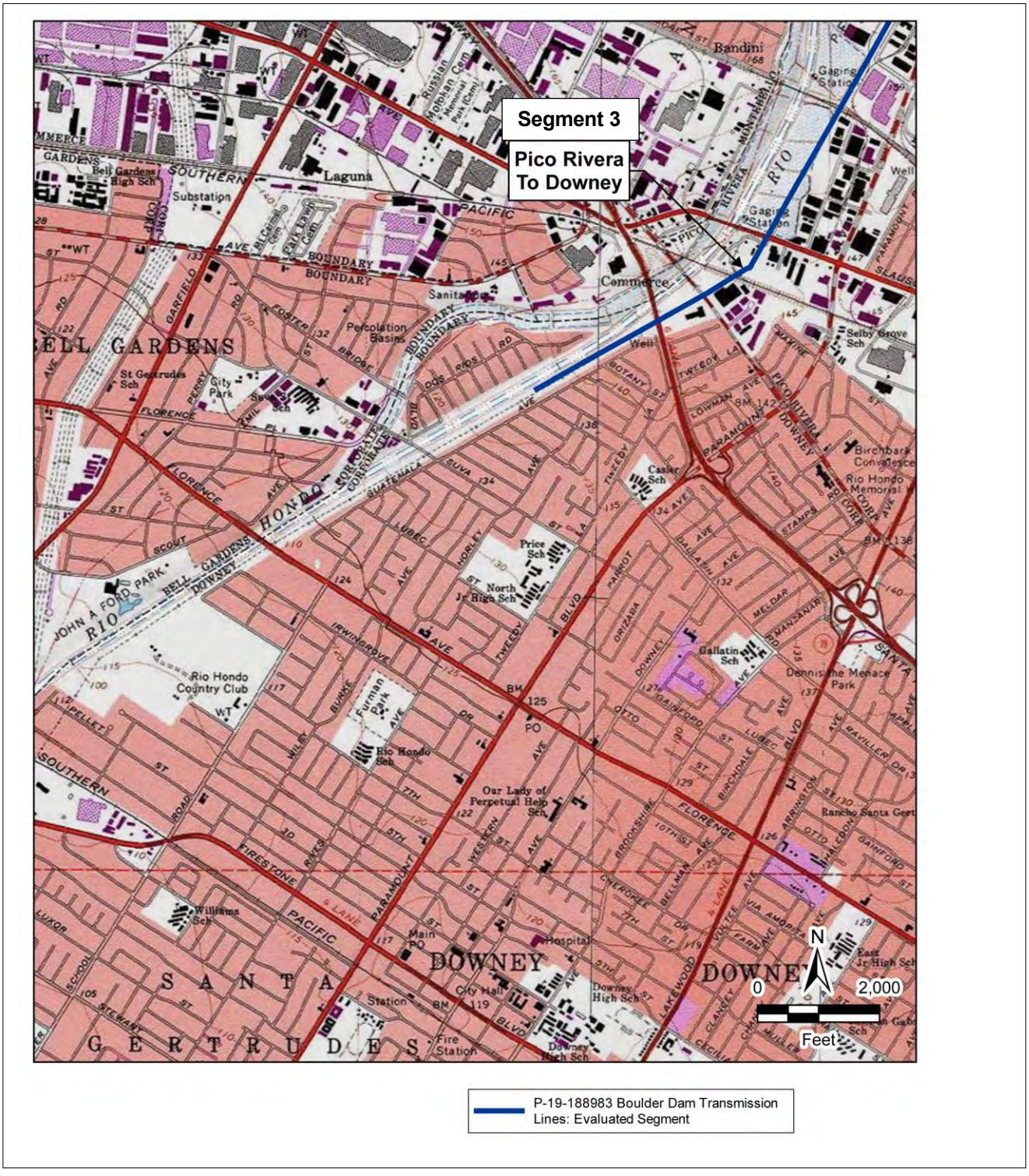
State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION **LOCATION MAP**	Primary #	19-188983 (Update)
	HRI#	
	Trinomial	

Resource Identifier: Boulder Dam – Los Angeles 287.5kV Transmission Line (Los Angeles Department of Water & Power Boulder Lines 1 & 2)

Caltrans Map Reference No.: 23

County/Route/Postmile:

Map Name: Whittier & SOUTH GATE *Scale: 1:24,000 *Date of Map: 1965; rev. 1981



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LINEAR FEATURE RECORD

Primary # P-19-188983 (UPDATE)
HRI #
Trinomial

Page 1 **of** 18 **Resource Name or #:** (Assigned by recorder) SRI 1

P1. Other Identifier: Los Angeles Department of Water and Power (LADWP) Boulder Transmission Lines 1–3

***P2. Location:** ☐ **Not for Publication** ☐ **Unrestricted**

***a. County** Los Angeles **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Mount Baldy **Date** 2013 **T** 1N ; **R** 8W ; SE ¼ **of** SE ¼ of **Sec** 23 ; San Bernardino **B.M.**
USGS 7.5' Quad Mount Baldy **Date** 2013 **T** 1N ; **R** 8W ; NW ¼ **of** SW ¼ of **Sec** 24 ; San Bernardino **B.M.**
USGS 7.5' Quad Mount Baldy **Date** 2013 **T** 1N ; **R** 8W ; NE ¼ **of** SW ¼ of **Sec** 24 ; San Bernardino **B.M.**
USGS 7.5' Quad Mount Baldy **Date** 2013 **T** 1N ; **R** 8W ; NE ¼ **of** SE ¼ of **Sec** 24 ; San Bernardino **B.M.**

c. Address City Zip

d. UTM (Give more than one for large and/or linear resources): Zone 11N , 437040 mE/ 3779432 mN
Zone 11N , 438205 mE/ 3779743 mN

e. Other Locational Data (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate):

From Interstate 210 West, exit on Mountain Avenue, toward Mount Baldy, in Upland (Exit 54). Turn north onto N. Mountain Avenue, and follow it for approximately 0.5 mile, continuing northward at a bend to the west, to arrive at a locked U.S. Army Corps of Engineers gate.

***P3a. Description** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)**:**

This is an update for resource P-19-188893 (LADWP Boulder Transmission Lines 1–3). In total, six towers (Features 2–7) of the transmission line are located inside the project area. The length of the segment within the project area is 1,113 feet, and the maximum width of the site is 125 feet. The segment is located south of the San Antonio Dam and trends roughly southwest–northeast through the project area. The westernmost of the updated towers (Feature 6) is located within another previously recorded site (P-36-020707). A number of ceramic insulators and other historical-period refuse were found around most of the towers.



***P3b. Resource Attributes** (List attributes and codes)**:** HP11 Engineering Structure

***P4. Resources Present:**
☐ Building ■ Structure ☐ Object
☐ Site ☐ District ☐ Element of District
☐ Other (Isolates, etc.)

P5b. Description of Photo (view, date, accession #): Overview of a segment of transmission line, view to the west; Date Taken: 2/11/2020

***P6. Date Constructed/Age and Source:**
■ Historic ☐ Prehistoric ☐ Both

***P7. Owner and Address:**

U.S. Army Corps of Engineers
Los Angeles District
915 Wilshire Blvd.
Los Angeles, CA 90017

***P8. Recorded by** (Name, affiliation, and address)**:** A. Canoff, C. Barrientos, J. Hoy, T. Blood, and K. Espinoza; Statistical Research, Inc., 21 W. Stuart Ave., Redlands, CA 92373

***P9. Date Recorded:** 2/10/2020

***P10. Survey Type** (Describe)**:** Intensive survey

***P11. Report Citation** (Cite survey report and other sources, or enter "none."):

Kremkau, Scott H. (editor)
2021 *Archaeological Survey and Architectural Assessment for the San Antonio Dam, Los Angeles and San Bernardino Counties, California.* Technical Report 20-25. Statistical Research, Redlands, California.

***Attachments:** ☐ NONE ■ Location Map ■Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ■Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ■Photograph Record ■Other (List): sketch map

L1. Historic and/or Common Name: LADWP Boulder Dam to Los Angeles Transmission Lines

L2a. Portion Described: ☐ Entire Resource ■ Segment ☐ Point Observation **Designation:** SRI 1

b. Location of point or segment (Provide UTM coordinates, decimal degrees, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map): Universal Transverse Mercator Zone 11 North; North American Datum of 1983

Feature 2 (Tower No. 226-D6): 437518 m Easting (mE)/ 3779580 m Northing (mN)
Feature 3 (Tower No. 226-D5): 437714 mE/ 3779591 mN
Feature 4 (Tower No. 226-D4): 437913 mE/ 3779602 mN
Feature 5 (Tower No. 227-D1): 437286 mE/ 3779511 mN
Feature 6 (Tower No. 227-D2): 437035 mE / 3779435 mN
Feature 7 (Tower No. 226-D3): 438204 mE/ 3779743 mN

L3. Description (Describe construction details, materials, and artifacts found at this segment/point. Provide plans/sections as appropriate.):

The linear feature consists of a segment of a previously recorded transmission line, LADWP Boulder Dam to Los Angeles Transmission Lines. The update of this segment includes the recordation of six towers (Features 2–7) described in the archaeological record. Fragments of ceramic insulators were observed at all of the towers except Feature 3, and additional historical-period artifacts were observed at Features 4 and 5. The additional historical-period artifacts include a utility can (Feature 4), a porcelain tableware fragment, and sun-colored-amethyst (SCA) glass fragments (Feature 5).

L4. Dimensions (In feet for historic features and meters for prehistoric features):

a. Top Width N/A

b. Bottom Width 44 feet (base of towers)

c. Height or Depth unknown

d. Length of Segment 1,113 feet

L5. Associated Resources: The transmission lines continue through a previously recorded historical-period water-control feature (P-36-020707), but the two resources are not related.

L4e. Sketch of Cross-Section (include scale) Facing:

L6. Setting (Describe natural features, landscape characteristics, slope, etc., as appropriate):

This segment of the site is located directly south of the San Antonio Dam. It is oriented roughly southwest–northeast and continues outside the project area. Dense chaparral vegetation surrounds the towers, with small access clearings. Ongoing maintenance of the dam disturbs the setting but does not appear to directly impact the resource.

L7. Integrity Considerations: This site has been previously listed in the National Register of Historic Places, and no significant changes were observed during the update of this segment.

L8a. Photograph, Map or Drawing

L8b. Description of Photo, Map, or Drawing (View, scale, etc.)**:**

L9. Remarks:

L10. Form Prepared by (Name, affiliation, and address)**:** Alyssa Canoff, Statistical Research, Inc., P.O. Box 390, Redlands, CA, 92373

L11. Date: 3/10/2020

Camera Format: Digital; FUGIFILM FinePix XP 130; SN: 8UB08816

Negatives Kept At: Statistical Research, Inc., 21 W. Stuart Ave., Redlands, CA 92373

Mo.	Day	Year	Exp./Frame	Subject/Description	View Toward	Accession No.
2	10	2020	0381	overview of Feature 2	west	1
2	10	2020	0382	ceramic insulator at Feature 2	down	2
2	10	2020	0383	downline overview from Feature 2	west	3
2	10	2020	0384	upline overview from Feature 2	east	4
2	10	2020	0385	overview of tower number at Feature 3	southwest	5
2	10	2020	0386	overview of downline from Feature 3	northwest	6
2	10	2020	0387	overview of upline from Feature 3	south	7
2	10	2020	0388	overview of Feature 4 with Tower number	southeast	8
2	10	2020	0389	downline overview from Feature 4	west	9
2	10	2020	0390	upline overview from Feature 4	east	10
2	10	2020	0391	utility can close-up at Feature 4	down	11
2	10	2020	0392	overview of Feature 5 with tower number	north	12
2	10	2020	0393	upline overview from Feature 5	east	13
2	10	2020	0394	downline overview from Feature 5	west	14
2	10	2020	0395	close-up of ceramic-sherd exterior (at Feature 5)	down	15
2	10	2020	0396	close-up of ceramic-sherd interior (at Feature 5)	down	16
2	10	2020	0397	close-up of ceramic insulator at Feature 5	down	17
2	10	2020	0398	close-up of SCA glass at Feature 5	down	18
2	10	2020	0399	close-up of paint can at Feature 5	down	19
2	10	2020	0400	overview of Feature 6 with tower number	northwest	20
2	10	2020	0401	upline overview from Feature 6	east	21
2	10	2020	0402	downline overview from Feature 6	southwest	22
2	10	2020	0403	overview of Feature 7 with tower number	northeast	23
2	10	2020	0404	downline overview from Feature 7	down	24

Frame 0381



Frame 0382



Frame 0383



Frame 0384



Frame 0385



Frame 0386



Frame 0387



Frame 0388



Frame 0389



Frame 0390



Frame 0391



Frame 0392



Frame 0393



Frame 0394



Frame 0395



Frame 0396



Frame 0397



Frame 0398



Frame 0399



Frame 0400



Frame 0401



Frame 0402



Frame 0403



Frame 0404



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

SKETCH MAP

Primary # P-19-188983 (UPDATE)
HRI #
Trinomial

Page 17 **of** 18 ***Resource Name or #:** (Assigned by recorder) SRI 1

***Drawn by:** S. Norris ***Date of map:** April 1, 2020



DPR 523K (Rev. 1/1995) (Word 9/2013) **NOTE: Include bar scale and north arrow.**

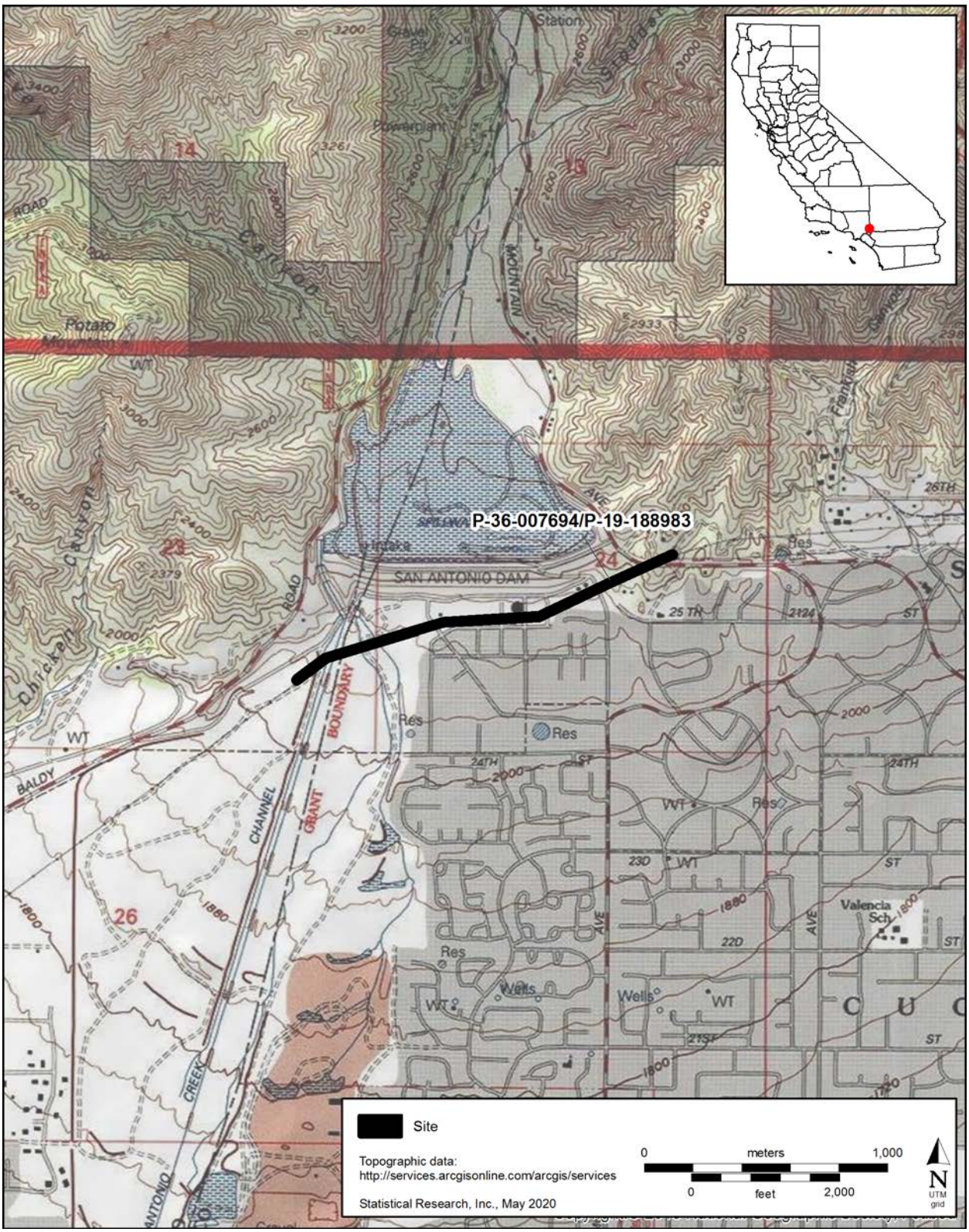
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary # P-19-188983 (UPDATE)
HRI #
Trinomial

 ***Resource Name or #:** (Assigned by recorder) SRI 1

***Map Name:** Mount Baldy 7.5-minute U.S. Geological Survey quadrangle ***Scale:** 1:24,000 ***Date of map:** 1988



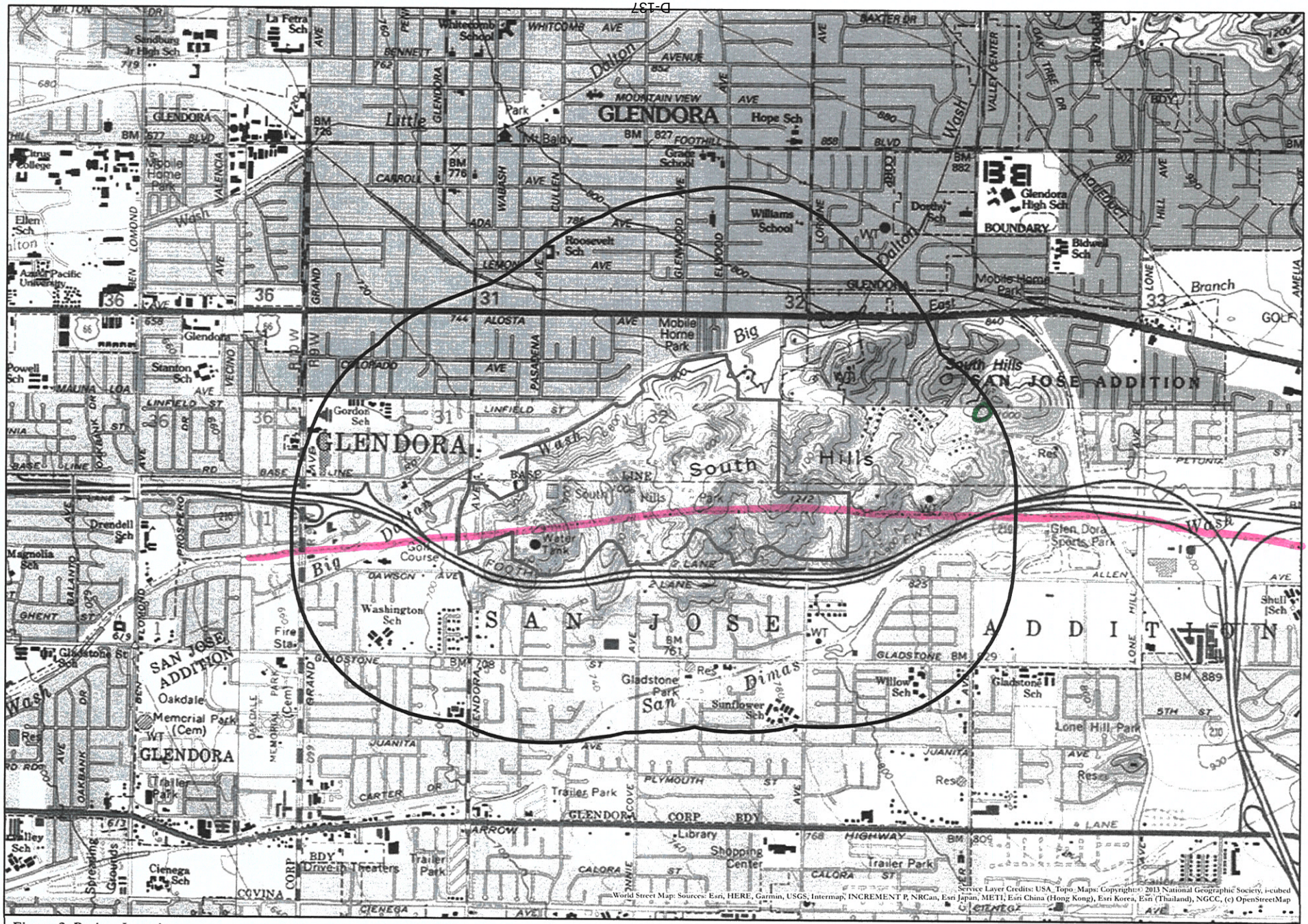


Figure 2. Project Location
Glendora Family Bike Park
City of Glendora

C-0556

Project Area
1/2 mile Buffer

Glendora & San Dimas, Calif. USGS 7.5-minute quadrangles
T1N/R9W/Sections 31 & 32
T1S/R9W/Sections 5 & 6
Date of Maps 1966/75

0 0.25 0.5 Miles
0 0.25 0.5 Kilometers
1:24,000
N

SCCIC Records 8/14/24 in beige

— : 188983

• : 1109

APPENDIX D
Native American Heritage Commission Sacred Lands File Check

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Reginald Pagaling
Chumash

VICE-CHAIRPERSON
Buffy McQuillen
Yokayo Pomo, Yuki, Nomlaki

SECRETARY
Sara Dutschke
Miwok

PARLIAMENTARIAN
Wayne Nelson
Luiseño

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
Laurena Bolden
Serrano

COMMISSIONER
Reid Milanovich
Cahuilla

COMMISSIONER
Bennae Calac
Pauma-Yuima Band of Luiseño Indians

EXECUTIVE SECRETARY
Raymond C. Hitchcock
Miwok, Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov

August 7, 2024

Morgan Beigle
DUKE CRM

Via Email to: morganbeigle@dukecrm.com

Re: C-0556 Glendora Family Bike Park Project, Los Angeles County

To Whom It May Concern:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information submitted for the above referenced project. The results were positive. Please contact the Gabrieleno Band of Mission Indians – Kizh Nation on the attached list for information. Please note that tribes do not always record their sacred sites in the SLF, nor are they required to do so. A SLF search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with a project's geographic area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites, such as the appropriate regional California Historical Research Information System (CHRIS) archaeological Information Center for the presence of recorded archaeological sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. Please contact all of those listed; if they cannot supply information, they may recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Los Angeles County
8/7/2024

Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties	Last Updated
Cahuilla Band of Indians	F	Anthony Madrigal, Tribal Historic Preservation Officer	52701 CA Highway 371 Anza, CA, 92539	(951) 763-5549		anthonymad2002@gmail.com	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	6/28/2023
Cahuilla Band of Indians	F	BobbyRay Esparza, Cultural Director	52701 CA Highway 371 Anza, CA, 92539	(951) 763-5549		besparza@cahuilla-nsn.gov	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	6/28/2023
Cahuilla Band of Indians	F	Erica Schenk, Chairperson	52701 CA Highway 371 Anza, CA, 92539	(951) 590-0942	(951) 763-2808	chair@cahuilla-nsn.gov	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	2/1/2024
Gabrieleno Band of Mission Indians - Kizh Nation	N	Christina Swindall Martinez, Secretary	P.O. Box 393 Covina, CA, 91723	(844) 390-0787		admin@gabrielenoindians.org	Gabrieleno	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	8/18/2023
Gabrieleno Band of Mission Indians - Kizh Nation	N	Andrew Salas, Chairperson	P.O. Box 393 Covina, CA, 91723	(844) 390-0787		admin@gabrielenoindians.org	Gabrieleno	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	8/18/2023
Gabrieleno/Tongva San Gabriel Band of Mission Indians	N	Anthony Morales, Chairperson	P.O. Box 693 San Gabriel, CA, 91778	(626) 483-3564	(626) 286-1262	GTTribalcouncil@aol.com	Gabrieleno	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	12/4/2023
Gabrielino Tongva Indians of California Tribal Council	N	Robert Dorame, Chairperson	P.O. Box 490 Bellflower, CA, 90707	(562) 761-6417	(562) 761-6417	gtongva@gmail.com	Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	3/16/2023
Gabrielino Tongva Indians of California Tribal Council	N	Christina Conley, Cultural Resource Administrator	P.O. Box 941078 Simi Valley, CA, 93094	(626) 407-8761		christina.marsden@alumni.usc.edu	Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	3/16/2023
Gabrielino/Tongva Nation	N	Sandonne Goad, Chairperson	106 1/2 Judge John Aiso St., #231 Los Angeles, CA, 90012	(951) 807-0479		sgoad@gabrielino-tongva.com	Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	3/28/2023
Gabrielino-Tongva Tribe	N	Charles Alvarez, Chairperson	23454 Vanowen Street West Hills, CA, 91307	(310) 403-6048		Chavez1956metro@gmail.com	Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	5/30/2023
Gabrielino-Tongva Tribe	N	Sam Dunlap, Cultural Resource Director	P.O. Box 3919 Seal Beach, CA, 90740	(909) 262-9351		tongvatcr@gmail.com	Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	5/30/2023
San Manuel Band of Mission Indians	F	Alexandra McCleary, Senior Manager of Cultural Resources Management	26569 Community Center Drive Highland, CA, 92346	(909) 633-0054		alexandra.mccleary@sanmanuel-nsn.gov	Serrano	Kern,Los Angeles,Riverside,San Bernardino	1/16/2024
Santa Rosa Band of Cahuilla Indians	F	Vanessa Minott, Tribal Administrator	P.O. Box 391820 Anza, CA, 92539	(951) 659-2700	(951) 659-2228	vminott@santarosa-nsn.gov	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	4/8/2024
Santa Rosa Band of Cahuilla Indians	F	Steven Estrada, Tribal Chairman	P.O. Box 391820 Anza, CA, 92539	(951) 659-2700	(951) 659-2228	sestrada@santarosa-nsn.gov	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	4/8/2024
Soboba Band of Luiseno Indians	F	Jessica Valdez, Cultural Resource Specialist	P.O. Box 487 San Jacinto, CA, 92581	(951) 663-6261	(951) 654-4198	jvaldez@soboba-nsn.gov	Cahuilla Luiseno	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	7/14/2023
Soboba Band of Luiseno Indians	F	Joseph Ontiveros, Tribal Historic Preservation Officer	P.O. Box 487 San Jacinto, CA, 92581	(951) 663-5279	(951) 654-4198	jontiveros@soboba-nsn.gov	Cahuilla Luiseno	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	7/14/2023

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 C-0556 Glendora Family Bike Park Project, Los Angeles County.

Record: PROJ-2024-003994
Report Type: List of Tribes
Counties: Los Angeles
NAHC Group: All

APPENDIX E
Native American Consultation Log

Native American Consultation Record

Project Name: South Hills Bike Park
Project Number: C-0556
NAHC Contact Initiated: 8/19/2024
NAHC Letter Received:

Results: The NAHC did not identify any Native American cultural resources in the Sacred Lands File (SLF). The NAHC recommended that we contact 16 Native American groups/individuals.

Matrix prepared by Morgan Beigle

Name/Group	Date contact was initiated	Method of contact	Notes
Erica Schnek, Cahuilla Band of Indians	8/19/2024	U.S. Certified Mail	Ms. Schnek received the letter on 8/21/2024. DUKE CRM sent a follow up email on 9/3/2024. See Mr. Esparza's response below.
BobbyRay Esparza, Cahuilla Band of Indians	8/19/2024	U.S. Certified Mail	Mr. Esparza received the letter on 8/21/2024. DUKE CRM sent a follow up email on 9/3/2024. Mr. Esparza responded to DUKE CRM via email on 9/3 stating that the tribe "would like to request all cultural materials associated with the project for review".
Anthony Madrigal, Cahuilla Band of Indians	8/19/2024	U.S. Certified Mail	Mr. Madrigal received the letter on 8/21/2024. DUKE CRM sent a follow up email on 9/3/2024. See Mr. Esparza's response above.
Andrew Salas, Gabrieleno Band of Mission Indians - Kizh Nation	8/19/2024	U.S. Certified Mail	Mr. Salas received the letter on 8/23/2024.DUKE CRM sent a follow up email on 9/3/2024. Same number is listed as Ms. Martinez' in the NAHC list.
Christina Swindall Martinez, Gabrieleno Band of Mission Indians - Kizh Nation	8/19/2024	U.S. Certified Mail	/Ms. Swindall received the letter on 8/23/2024.DUKE CRM sent a follow up email on 9/3/2024. DUKE CRM conducted a follow up call on 9/17, however Ms. Martinez did not pick up and a voicemail was left.
Anthony Morales, Gabrieleno/Tongva San Gabriel Band of Mission Indians	8/19/2024	U.S. Certified Mail	Mr. Morales received the letter on 8/21/2024. DUKE CRM sent a follow up email on 9/3/2024. Ms. Conley from the Gabrielino Tongva Indians of California Tribal Council cc'd Adrian Morales in her response to DUKE CRM on 9/3. Mr. Morales asked what the field survey would cover, after DUKE CRM responded and said to give a call for further details or questions. Mr. Morales said "Great will do" and no follow up to DUKE CRM was made.
Sandonne Goad, Gabrielino /Tongva Nation	8/19/2024	U.S. Certified Mail	Ms. Goad received the letter on 8/21/2024. DUKE CRM sent a follow up email on 9/3/2024. DUKE CRM conducted a follow up call on 9/17, however Ms. Goad did not pick up and a voicemail was left.

Name/Group	Date contact was initiated	Method of contact	Notes
Christina Conley, Gabrielino Tongva Indians of California Tribal Council	8/19/2024	U.S. Certified Mail	Ms. Conley received the letter on 8/23/2024. DUKE CRM sent a follow up email on 9/3/2024. Ms. Conley responded to DUKE CRM via email with the following: "The APE has several known areas of tribal sensitivity along the pathway: Alosta Canyon South trailhead, Bonnie Cove Trails and Alosta Canyon Trail South Fork Upper (the nearest and most concerning is within 70 yards) and will need to be monitored for ground disturbances related to the project. We will divert involvement and final comments to the San Gabriel Band of Mission Indians copied here."
Robert Dorame, Gabrielino Tongva Indians of California Tribal Council	8/19/2024	U.S. Certified Mail	DUKE CRM sent a follow up email on 9/3/2024. See Ms. Conley's response above.
Charles Alvarez, Gabrielino-Tongva Tribe	8/19/2024	U.S. Certified Mail	DUKE CRM sent a follow up email on 9/3/2024. DUKE CRM attempted to call on 9/12 but Mr. Alvarez' phone number is disconnected.
Sam Dunlap, Gabrielino-Tongva Tribe	8/19/2024	U.S. Certified Mail	Mr. Dunlap received the letter on 8/23/2024. DUKE CRM sent a follow up email on 9/3/2024. DUKE CRM conducted a follow up call on 9/17, however Mr. Dunlap did not pick up and a voicemail was left.
Alexandra McCleary, San Manual Band of Mission Indians	8/19/2024	U.S. Certified Mail	Ms. McCleary received the letter on 8/22/2024. DUKE CRM received a response on 8/26/2024 from Eunice Ambriz, cultural resources technician, stating that the Project is located outside of their territory and the tribe will not be requesting consultation.
Vanessa Minott, Santa Rosa Band of Cahuilla Indians	8/19/2024	U.S. Certified Mail	Ms. Minott received the letter on 8/22/2024. DUKE CRM sent a follow up email on 9/3/2024. Ms. Minott responded to DUKE CRM via email on 9/3 stating that the tribe defers to Soboba Band of Luiseno Indians.
Steven Estrada, Santa Rosa Band of Cahuilla Indians	8/19/2024	U.S. Certified Mail	Mr. Estrada received the letter on 8/22/2024. DUKE CRM sent a follow up email on 9/3/2024. See Ms. Minott's response above.
Jessica Valdez, Soboba Band of Luiseno Indians	8/19/2024	U.S. Certified Mail	DUKE CRM sent a follow up email on 9/3/2024. DUKE CRM conducted a follow up call on 9/17. Ms. Valdez said the tribe defers to Mr. Morales with the Gabrieleno/Tongva San Gabriel Band of Mission Indians.
Joseph Ontiveros, Soboba Band of Luiseno Indians	8/19/2024	U.S. Certified Mail	DUKE CRM sent a follow up email on 9/3/2024. See Ms. Valdez' response above.

APPENDIX F
Field Survey Photos



Overview of the proposed beginner climb trail, view to the south.



Overview of the proposed beginner climb trail, view to the east.



Overview of the proposed beginner climb trail, view to the southeast.



Large cobbles and vegetation on the proposed beginner climb trail, view to the southwest.



Overview of the proposed intermediate trail, view to the northwest.


Overview of the proposed intermediate trail, view to the west.



Overview of the proposed intermediate trail, view to the northeast.



Plan view of a Pepsi bottle found in a drainage on the proposed intermediate trail.



Overview of the proposed multiuse trail, view to the west.



Overview of the historic transmission line (P-19-188983), view to the east.



Overview of the northern portion the proposed multiuse trail, view to the north.



Overview of the proposed multiuse trail, view to the west.



Overview of the proposed multiuse trail and historic transmission line (P-19-188983), view to the west.



Overview of the proposed multiuse trail, view to the west.



Close-up of thick brush, view to the east.



Overview of sandstone visible on the proposed multiuse trail, view to the southwest.