Appendix C

Historical/Archaeological Resources Survey Report, Oeste Recharge Project

CRM Tech

May 25, 2021

HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT

OESTE RECHARGE PROJECT

Phelan Area
San Bernardino County, California

Prepared for:

Mojave Water Agency
13846 Conference Center Drive
Apple Valley, CA 92037-4377

Prepared by:

CRM TECH
1016 East Cooley Drive, Suite A/B
Colton, CA 92324

Bai "Tom" Tang, Principal Investigator
Michael Hogan, Principal Investigator

May 25, 2021
CRM TECH Contract No. 3706A

Title: Historical/Archaeological Resources Survey Report: Oeste Recharge Project, Phelan Area, San Bernardino County, California

Author(s): Bai "Tom" Tang, Principal Investigator/Historian
Deirdre Encarnación, Archaeologist/Report Writer
Daniel Ballester, Archaeologist/Field Director

Consulting Firm: CRM TECH
1016 East Cooley Drive, Suite A/B
Colton, CA 92324
(909) 824-6400

Date: May 25, 2021

Prepared for: Robert Hampson, Water Resources Hydrogeologist
Mojave Water Agency
13846 Conference Center Drive
Apple Valley, CA 92037-4377
(760) 946-7061

USGS Quadrangle: Mescal Creek, Calif., 7.5' quadrangle (Section 30, T5N R7W, San Bernardino Baseline and Meridian)

Project Size: Approximately 10 acres

Keywords: Southern Mojave Desert region; Assessor's Parcel Number 3099-081-01; Phase I historical/archaeological resources survey; Site 36-021351 (California Aqueduct, East Branch); no impact on "historical resources" under CEQA

MANAGEMENT SUMMARY

Between February and May 2021, CRM TECH performed a cultural resources study on approximately ten acres of undeveloped land near the unincorporated community of Phelan, San Bernardino County, California. The subject property of the study consists mainly of Assessor's Parcel Number 3099-081-01, along with a linear pipeline right-of-way across the adjacent property to the west, and is located at the western terminus of Cayucos Drive, between 263rd Street East and Oasis Road. The project location lies in the south half of Section 30, T5N R7W, San Bernardino Baseline and Meridian, as depicted in the United States Geological Survey (USGS) Mescal Creek, California, 7.5' quadrangle.

The study is part of the environmental review process for the proposed Oeste Recharge Project, which entails mainly the excavation of a basin for the purpose of recharging local groundwater and the installation of a pipeline leading generally southwest from the basin to the nearby California Aqueduct (East Branch). The Mojave Water Agency (MWA), as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA). The purpose of this study is to provide the MWA with the necessary information and analysis to determine whether the project would cause a substantial adverse change to any "historical resources," as defined by CEQA, that may exist in or near the project area.

In order to identify such resources, CRM TECH initiated a historical/archaeological resources records search and a Native American Sacred Lands File search, pursued historical background research, and carried out an intensive-level field survey. Throughout the course of these research procedures, the California Aqueduct (East Branch), which was previously recorded into the California Historical Resources Inventory as Site 36-021351, was the only potential "historical resource" encountered within or adjacent to the project area. Constructed in 1966-1973 as a part of the backbone of the massive California State Water Project, the aqueduct traverses roughly 200 feet south of the main project site and across the southwestern end of the pipeline alignment.

In light of the crucial role that the California State Water Project played in the phenomenal growth of the State of California since the mid-20th century as well as the distinguished engineering accomplishment of the project, the California Aqueduct (East Branch) as a whole has been determined eligible for listing in the California Register of Historical Resources and thus meets the definition of a "historical resource" under CEQA provisions. The proposed construction of the recharge basin, pipeline, and other associated facilities during this project, however, will not cause a substantial adverse change in the significance, integrity, and overall character of the 98-mile-long canal. Therefore, pursuant to PRC §21084.1, CRM TECH recommends to the MWA a finding of *No Impact* regarding "historical resources."

No further cultural resources investigation is recommended for the project unless construction plans undergo such changes as to include areas not covered by this study. However, if buried cultural materials are encountered during any earth-moving operations associated with the project, all work within 50 feet of the discovery should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds. Under this condition, CRM TECH further recommends that the Oeste Recharge Project may be cleared to proceed under CEQA provisions on cultural resources.

TABLE OF CONTENTS

LIST OF FIGURES

INTRODUCTION

Between February and May 2021, CRM TECH performed a cultural resources study on approximately ten acres of undeveloped land near the unincorporated community of Phelan, San Bernardino County, California (Fig. 1). The subject property of the study consists mainly of Assessor's Parcel Number 3099-081-01, along with a linear pipeline right-of-way across the adjacent property to the west, and is located at the western terminus of Cayucos Drive, between 263rd Street East and Oasis Road (Figs. 2, 3). The project location lies in the south half of Section 30, T5N R7W, San Bernardino Baseline and Meridian, as depicted in the United States Geological Survey (USGS) Mescal Creek, California, 7.5' quadrangle (Fig. 2).

The study is part of the environmental review process for the proposed Oeste Recharge Project, which entails mainly the excavation of a basin for the purpose of recharging local groundwater and the installation of a pipeline leading generally southwest from the basin to the nearby California Aqueduct (East Branch). The Mojave Water Agency (MWA), as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA; PRC §21000, et seq.). The purpose of this study is to provide the MWA with the necessary information and analysis to determine whether the project would cause a substantial adverse change to any "historical resources," as defined by CEQA, that may exist in or near the project area.

In order to identify such resources, CRM TECH initiated a historical/archaeological resources records search and a Native American Sacred Lands File search, pursued historical background research, and carried out an intensive-level field survey. The following report is a complete account of the methods, results, and final conclusion of the study. Personnel who participated in the study are named in the appropriate sections below, and their qualifications are provided in Appendix 1.

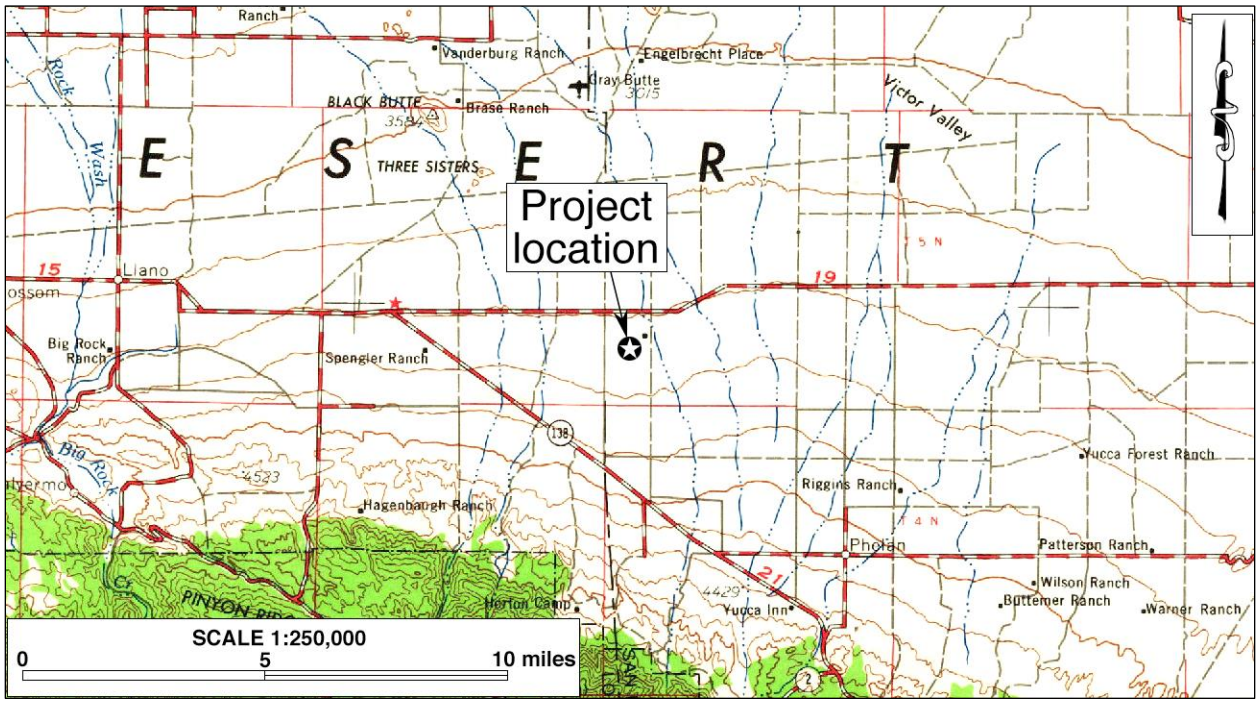


Figure 1. Project vicinity. (Based on USGS San Bernardino, Calif., 120'x60' quadrangle [USGS 1969])

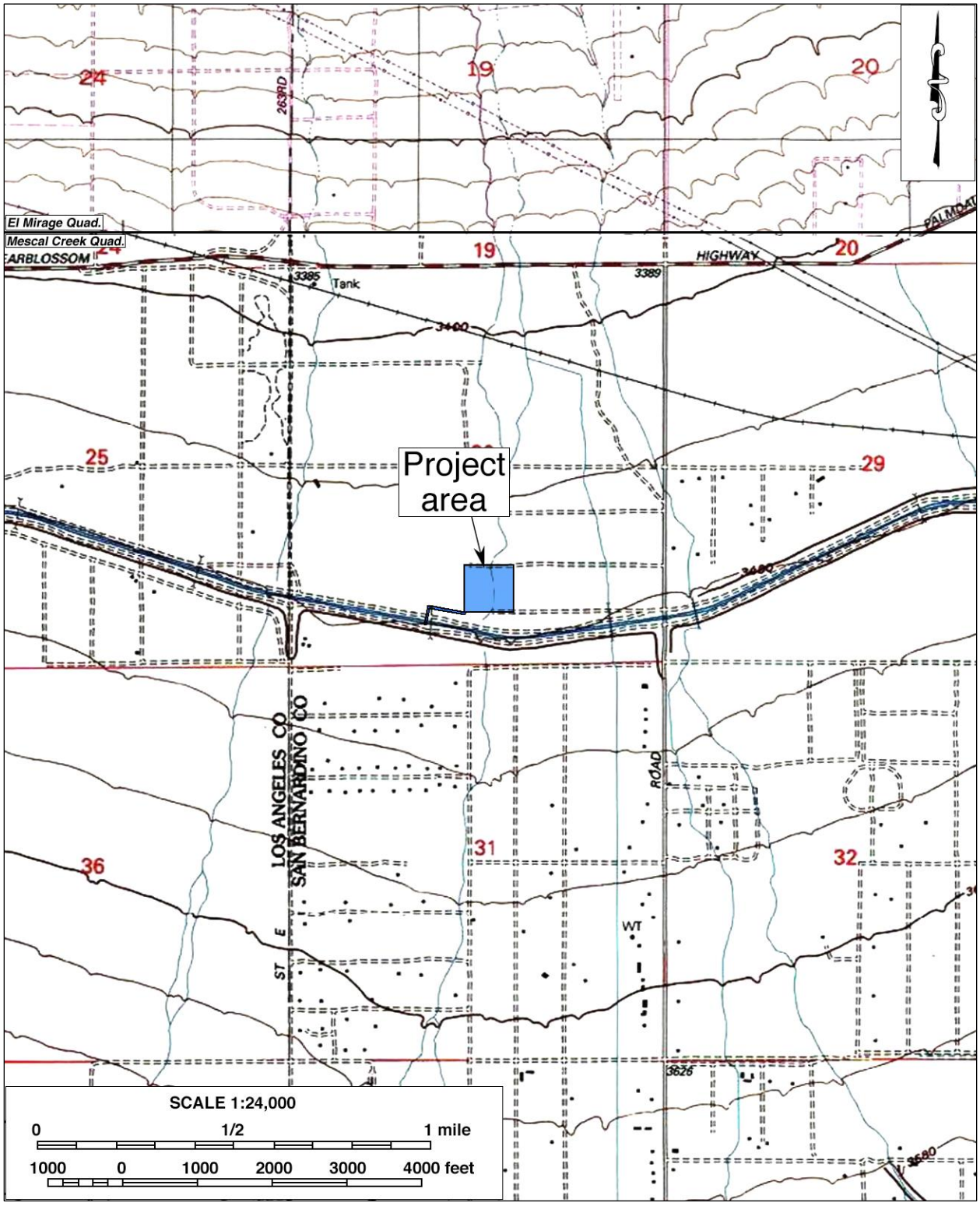


Figure 2. Project area. (Based on USGS El Mirage and Mescal Creek, Calif., 7.5' quadrangles [USGS 1968; 1995])

Figure 3. Aerial view of the project area.

SETTING

CURRENT NATURAL SETTING

The small, rural community of Phelan is located in the northern foothills of the San Gabriel Mountains and on the western edge of the Victor Valley. The San Gabriel Mountains comprise the portion of the Transverse Range that extends from Newhall Pass on the west to the Cajon Pass on the east, separating the Los Angeles Basin and the San Bernardino Valley from the western Mojave Desert. The climate and environment of the area are typical of southern California "high desert" country, so-called because of its higher elevation than the Colorado Desert to the southeast, and are marked by extremes in temperature and aridity. Summer highs reach well over 110ºF and winter lows dip below freezing. Average annual precipitation is less than five inches.

Situated within a sparsely populated rural residential area, the project location is surrounded by undeveloped desert land crisscrossed by unpaved roads (Fig. 3). The concrete-lined channel of the California Aqueduct (East Branch) lies approximately 200 feet to the south of the main project site, where the recharge basin will be constructed, while the southwestern end of the pipeline alignment includes an existing concrete overchute across the aqueduct (Fig. 3). Elevations in the project area range around 3,470 to 3,485 feet above mean sea level, and the terrain is relatively level with a slight incline towards the south.

Several small drainages traverse the project area, generally oriented north-south. The ground surface in the project area appears to have been disturbed by off-road vehicle use and recent dumping of landscaping, automotive, and construction waste. Modern domestic refuse was also observed. The surface soils are of grayish-brown, fine to coarse alluvial sands mixed with small rocks and gravel. Vegetation observed includes Joshua trees, creosote bush, brittlebush, cholla, and other small native and naturalized grasses and shrubs (Fig. 4).

Figure 4. Typical landscape in the project area. (Photograph taken on March 25, 2021; view to the east)

CULTURAL SETTING

Prehistoric Context

In order to understand the progress of Native American cultures prior to European contact, archaeologists have devised chronological frameworks on the basis of artifacts and site types that date back some 12,000 years. Currently, the chronology most frequently applied in the Mojave Desert divides the region's prehistory into five periods marked by changes in archaeological remains, reflecting different ways in which Native peoples adapted to their surroundings. According to Warren (1984) and Warren and Crabtree (1986), the five periods are as follows: the Lake Mojave Period, 12,000 years to 7,000 years ago; the Pinto Period, 7,000 years to 4,000 years ago; the Gypsum Period, 4,000 years to 1,500 years ago; the Saratoga Springs Period, 1,500 years to 800 years ago; and the Protohistoric Period, 800 years ago to European contact.

More recently, Hall (2000) presented a slightly different chronology for the region, also with five periods: Lake Mojave (ca. 8000-5500 B.C.), Pinto (ca. 5500-2500 B.C.), Newberry (ca. 1500 B.C.-500 A.D.), Saratoga (ca. 500-1200 A.D.), and Tecopa (ca. 1200-1770s A.D.). According to Hall (*ibid*.:14), small mobile groups of hunters and gatherers inhabited the Mojave Desert during the Lake Mojave sequence. Their material culture is represented by the Great Basin Stemmed points and flaked stone crescents. These small, highly mobile groups continued to inhabit the region during the Pinto Period, which saw an increased reliance on ground foods, small and large game animals, and the collection of vegetal resources, suggesting that "subsistence patterns were those of broad-based foragers" (*ibid*.:15). Artifact types found in association with this period include the Pinto points and *Olivella* sp. spire-lopped beads.

Distinct cultural changes occurred during the Newberry Period, in comparison to the earlier periods, including "geographically expansive land-use pattern…involving small residential groups moving between select localities," long-distance trade, and diffusion of trait characteristics (Hall 2000:16). Typical artifacts from this period are the Elko and Gypsum Contracting Stem points and Split Oval beads. The two ensuing periods, Saratoga and Tecopa, are characterized by seasonal group settlements near accessible food resources and the intensification of the exploitation of plant foods, as evidenced by groundstone artifacts (*ibid*.:16).

Hall (2000:16) states that "late prehistoric foraging patterns were more restricted in geographic routine and range, a consequence of increasing population density" and other variables. Saratoga Period artifact types include Rose Spring and Eastgate points as well as Anasazi grayware pottery. Artifacts from the Tecopa Period include Desert Side-notched and Cottonwood Triangular points, buffware and brownware pottery, and beads of the Thin Lipped, Tiny Saucer, Cupped, Cylinder, steatite, and glass types (*ibid*.).

Ethnohistoric Context

The Victor Valley area is situated near the presumed boundary between the traditional territories of the Serrano and the Vanyume peoples. The basic written sources on Serrano and Vanyume cultures are Kroeber (1925), Strong (1929), and Bean and Smith (1978), and the following ethnographic discussion of the Serrano and Vanyume peoples is based on these sources. Linguistically the Vanyume were probably related to the Serrano, their southern neighbor, although politically they

seem to have differed from the Serrano proper. The number of Vanyumes, never large, dwindled rapidly between 1820 and 1834, when southern California Indians were removed to the various missions and their *asistencias*, and the group virtually disappeared well before 1900. As a result, very little is known about the Vanyume today.

The Serrano's territory is centered at the San Bernardino Mountains, but also includes part of the San Gabriel Mountains, much of the San Bernardino Valley, and the Mojave River valley in the southern portion of the Mojave Desert, reaching as far east as the Cady, Bullion, Sheep Hole, and Coxcomb Mountains. Prior to European contact, Serrano subsistence was defined by the surrounding landscape and primarily based on the gathering of wild and cultivated foods and hunting, exploiting nearly all of the resources available. They settled mostly on elevated terraces, hills, and finger ridges near where flowing water emerged from the mountains.

Loosely organized into exogamous clans led by hereditary heads, the clans were in turn affiliated with one of two exogamous moieties, the Wildcat (*Tukutam*) or the Coyote (*Wahiiam*). The exact nature of the clans, their structure, function, and number are not known, except that each clan was the largest autonomous political and landholding unit. The core of the unit was the patrilineage, although women retained their own lineage names after marriage. There was no pan-tribal political union among the clans.

The Serrano had a variety of technological skills that they used to acquire food, shelter, and clothing as well as to create ornaments and decorations. Common tools included manos and metates, mortars and pestles, hammerstones, fire drills, awls, arrow straighteners, and stone knives and scrapers. These lithic tools were made from locally sourced material as well as materials procured through trade or travel. They also used wood, horn, and bone spoons and stirrers; baskets for winnowing, leaching, grinding, transporting, parching, storing, and cooking; and pottery vessels for carrying water, storage, cooking, and serving food and drink. Much of this material cultural, elaborately decorated, does not survive in the archaeological record. As usual, the main items found archaeologically relate to subsistence activities.

Although contact with Europeans may have occurred as early as 1771 or 1772, Spanish influence on Serrano lifeways was minimal until the 1810s, when a mission *asistencia* was established on the southern edge of Serrano territory. Between then and the end of the mission era in 1834, most of the Serrano in the western portion of their traditional territory were removed to the nearby missions. In the eastern portion, a series of punitive expeditions in 1866-1870 resulted in the death or displacement of almost all remaining Serrano population in the San Bernardino Mountains. Today, most Serrano descendants are affiliated with the San Manuel Band of Mission Indians, the Morongo Band of Mission Indians, or the Serrano Nation of Indians.

Historic Context

The Victor Valley region received its first European visitor, the famed Spanish missionary and explorer Francisco Garcés, in 1776, and the first Euroamerican settlements appeared in the valley as early as 1860 (Peirson 1970:128). Despite these "early starts," due to its harsh environment, development in the arid high desert country of southern California was slow and limited for much of the historic period, and the Victor Valley remained only sparsely populated until the second half of the 20th century.

Garcés traveled through the Victor Valley along an ancient Indian trading route known today as the Mojave Trail (Beck and Haase 1974:15). In 1829, most of this trail was incorporated into an important pack-train road known as the Old Spanish Trail, which extended between southern California and Santa Fe, New Mexico (Warren 2004). Some 20 years later, when the historic wagon road known as the Mormon Trail or Salt Lake Trail was established between Utah and southern California, it followed essentially the same route across the Mojave Desert (NPS 2001:5). Since then, the Victor Valley has always served as a crucial link on a succession of major transportation arteries, where the heritage of the ancient Mojave Trail was carried on by the Santa Fe Railway, by the legendary U.S. Route 66, and finally by today's Interstate Highway 15.

Thanks to the availability of fertile lands and the abundance of ground water, agriculture played a dominant role in the early development of the Victor Valley area (McGinnis 1988). During the late 19th and early 20th centuries, settlers in the valley attempted a number of money-making staples, such as alfalfa, deciduous fruits, and poultry, with only limited success. In the vicinity of present-day Phelan, settlement activities began in the early 20th century, when a number of ranches came into being along the foothills on the San Gabriel Mountains. The Phelan post office was established in 1916 and named after Senator James D. Phelan, whose political influence brought about its establishment (Gudde 1998:288).

Around the turn of the century, large deposits of limestone and granite were discovered, prompting cement manufacturing to become the leading industry in the valley (City of Victorville n.d.). During and after WWII, George Air Force Base, established in 1941, added a new driving force in the local economy with its 6,000 military and civilian employees. After being deactivated in 1992, the former base was converted for civilian use as the Southern California Logistics Airport.

Since the 1980s, development the Victor Valley has been characterized by the emergence of its leading urban enclaves as "bedroom communities" in support of the industrial and commercial centers in the Greater Los Angeles area. Spearheaded by the City of Victorville, the Town of Apple Valley, and the City of Hesperia on Interstate Highway 15, the desert valley has been one of the fastest growing regions in California over the last few decades. The Phelan area in the western Victor Valley, in contrast, has largely remained outside the influence of the recent suburban expansion, and to this day retains much of its rural character.

RESEARCH METHODS

RECORDS SEARCH

The historical/archaeological resources records search service for this study was provided by the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System (CHRIS) on March 15, 2021. Located on the campus of California State University, Fullerton, SCCIC is the State of California's official cultural resource records repository for the County of San Bernardino. During the records search, SCCIC staff examined the center's digital maps, records, and databases for previously identified cultural resources and existing cultural resources reports within a half-mile radius of the project area. Due to facility closure during the COVID-19 pandemic, records that had not been digitized were unavailable to SCCIC staff, and the

results of recent studies have not been processed. Therefore, SCCIC cautions that the records search results "may or may not be complete" (see App. 2).

SACRED LANDS FILE SEARCH

On February 16, 2021, CRM TECH submitted a written request to the State of California Native American Heritage Commission (NAHC) for a records search in the commission's Sacred Lands File. The NAHC is the State of California's trustee agency for the protection of "tribal cultural resources," as defined by California Public Resources Code §21074, and is tasked with identifying and cataloging properties of Native American cultural value, including places of special religious, spiritual, or social significance and known graves and cemeteries throughout the state. The response from the NAHC is summarized below and attached to this report in Appendix 3.

HISTORICAL RESEARCH

Historical background research for this study was conducted by CRM TECH principal investigator/ historian Bai "Tom" Tang. Sources consulted during the research included published literature in local history, historic maps of the Phelan area, and aerial photographs of the project vicinity. Among the maps consulted for this study were the U.S. General Land Office's (GLO) land survey plat maps dated 1856 and USGS topographic maps dated 1903-1995, which are accessible at the websites of the U.S. Bureau of Land Management and the USGS. The aerial photographs, taken in 1952-2020, are available at the Nationwide Environmental Title Research (NETR) Online website and through the Google Earth software.

FIELD SURVEY

On March 25, 2021, CRM TECH field director Daniel Ballester and project archaeologist Arturo Aldaco carried out the intensive-level, on-foot field survey. The recharge basin site was surveyed by walking a series of parallel north-south transects spaced 15 meters (approximately 45 feet) apart, while the pipeline right-of-way was surveyed along two parallel 10-meter (approximately 33-foot) transects placed on either side of the project centerline. In this way, the ground surface in the entire project area was systematically and carefully examined for any evidence of human activities dating to the prehistoric or historic period (i.e., 50 years ago or older). Ground visibility was poor (approximately 50%) where pockets of thick vegetation growth are present but was excellent (90%) over most of the property (Fig. 4).

RESULTS AND FINDINGS

RECORDS SEARCH

According to SCCIC records, a 2010 study along the East Branch of the California Aqueduct crossed the southwestern tip of the project area (ESA 2010; Fig. 5), but the rest of the project area has not been involved in any previous cultural resources studies. No other studies have been reported to the SCCIC within the half-mile scope of the records search (see App. 2). In addition to being the subject of the only previous study in the vicinity, the aqueduct also represents the only cultural resource that has been recorded within the project area or the half-mile scope (see App. 2).

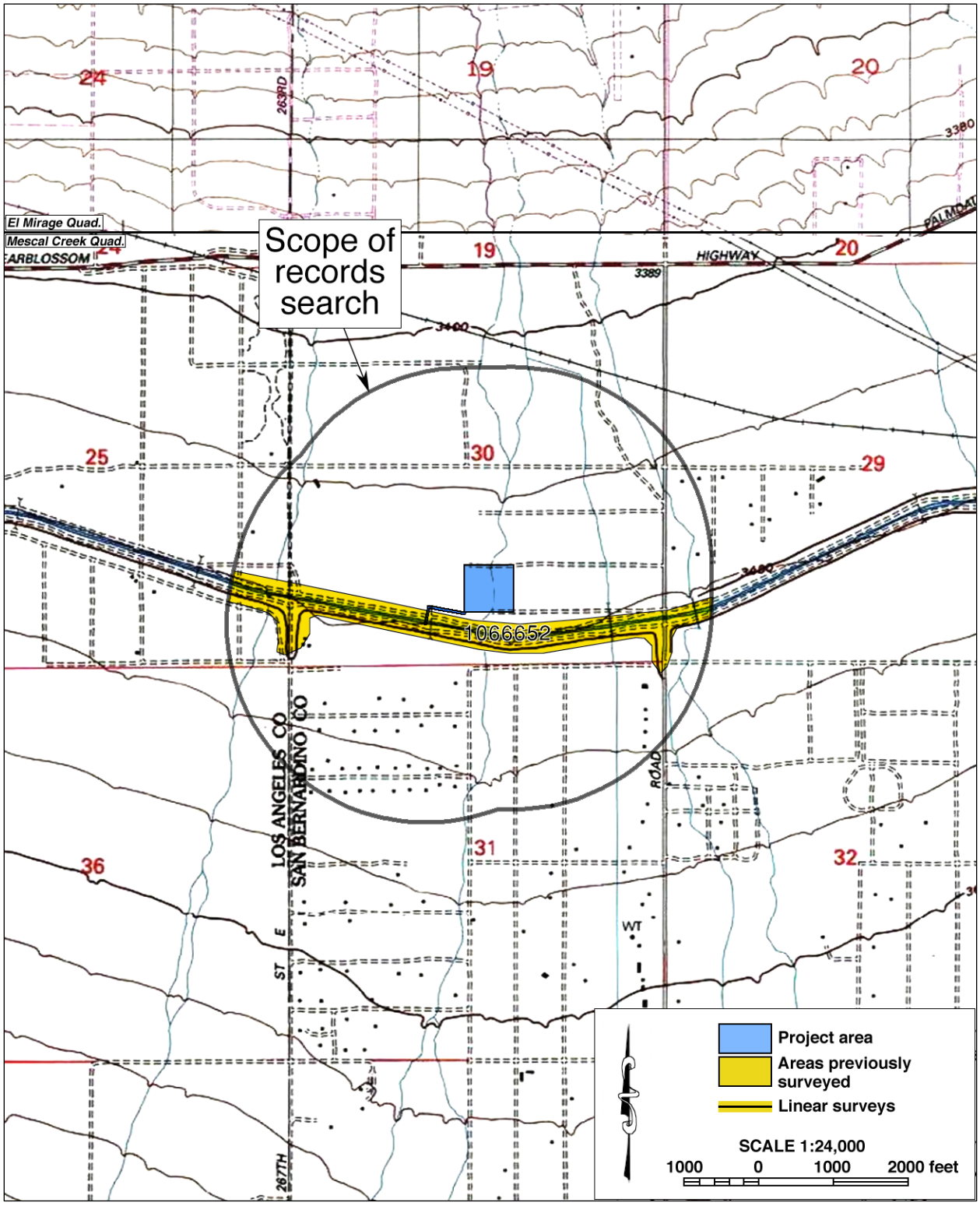


Figure 5. Previous cultural resources study within the scope of the records search. Location of historical/ archaeological resources are not shown as a protective measure.

Constructed in 1966-1973 as a part of the backbone of the massive California State Water Project, the 98-mile-long East Branch of the California Aqueduct has been recorded into the CHRIS at many locations in San Bernardino County since 2008, along with such associated features as bridges, overchutes, siphons, tunnels, culverts, and penstocks, and has been designated as Site 36-021351 in the inventory (see App. 4). Various segments of the canal have been evaluated individually for historic significance in the past, with differing results depending on the historic integrity assessment (see App. 4).

While some segments were found not to retain sufficient historic integrity to relate to the aqueduct's period of origin, overall the East Branch has been found eligible for listing in the National Register of Historic Places and the California Register of Historical Resources as a critical element of the California State Water Project, an important public works project that provided water to more than two-thirds of the state's population, and as a highly distinguished engineering enterprise (Anderson 2009:12; Ambacher 2011:5-6). As a whole, the East Branch has also been found to have a high level of historic integrity in relation to the 1966-1973 era (Anderson 2009:13; Ambacher 2011:6).

SACRED LANDS FILE SEARCH

In response to CRM TECH's inquiry, the NAHC reports in a letter dated March 2, 2021, that the Sacred Lands File identified no Native American cultural resources in the project vicinity. Noting that the absence of specific information would not necessarily indicate the absence of cultural resources, however, the NAHC recommended that local Native American groups be consulted for further information and provided a referral list of eight individuals associated with five local Native American groups who may have knowledge of such resources. The NAHC's reply is attached in Appendix 3 for reference by the MWA in future government-to-government consultations with the pertinent tribal groups.

HISTORICAL RESEARCH

Historical sources consulted for this study indicate no notable human-made features in the immediate vicinity of the project area until the construction of the East Branch of the California Aqueduct, although a few winding dirt roads and a "Smith Ranch" were reported nearby at least by the 1930s-1940s (Figs. 6-9; NETR Online 1952-1974). The desert landscape in and around the project area remained largely unaltered as late as 1968 (NETR Online 1968). In contrast, the portion of the California Aqueduct across this area, including the service roads along its banks and the overchute across the canal at the southwestern end of the project area, had been completed by 1974 (NETR Online 1974). Cayucos Drive, an unpaved road, was present by 1994, but no further changes in land use have been observed within or adjacent to the project boundaries since then (NETR Online 1974-2016; Google Earth 1994-2020).

FIELD SURVEY

The field survey confirmed the East Branch of the California Aqueduct (Site 36-021351) to be the only potential cultural resource present within or adjacent to the project boundaries, and no other features, sites, or artifact deposits of prehistoric or historical origin were encountered. As mentioned above, the ground surface in the project area has been partially disturbed, and scattered domestic

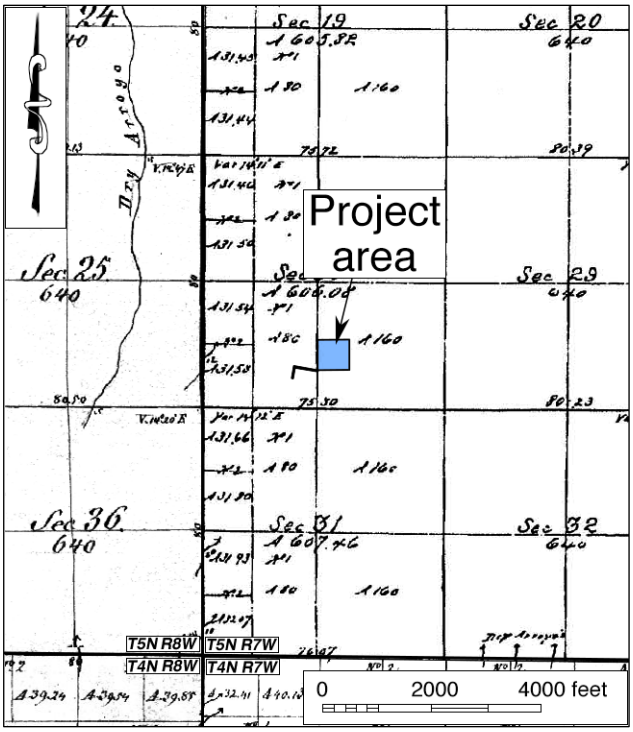


Figure 6. The project area and vicinity in 1853-1856. (Source: GLO 1856a-d)

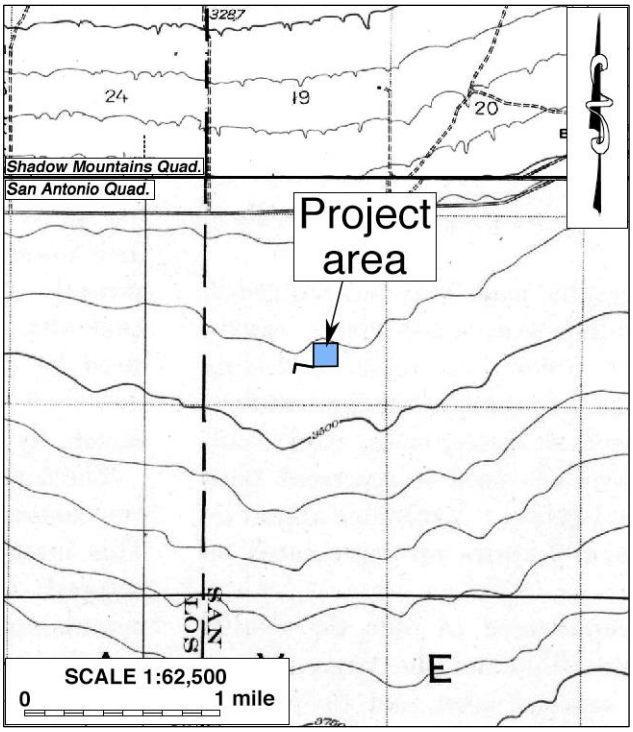


Figure 7. The project area and vicinity in 1899-1937. (Source: USGS 1903; 1937)

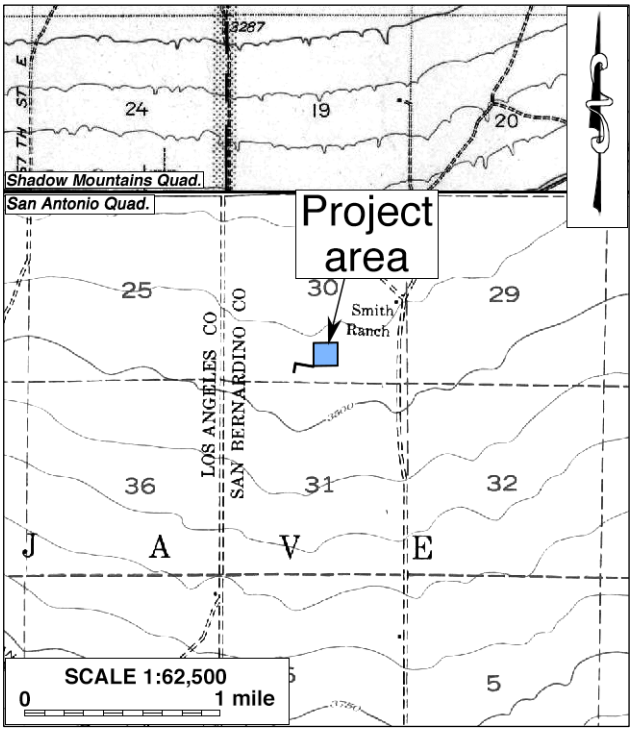


Figure 8. The project area and vicinity in 1941-1942. (Source: USGS 1942a; 1942b)

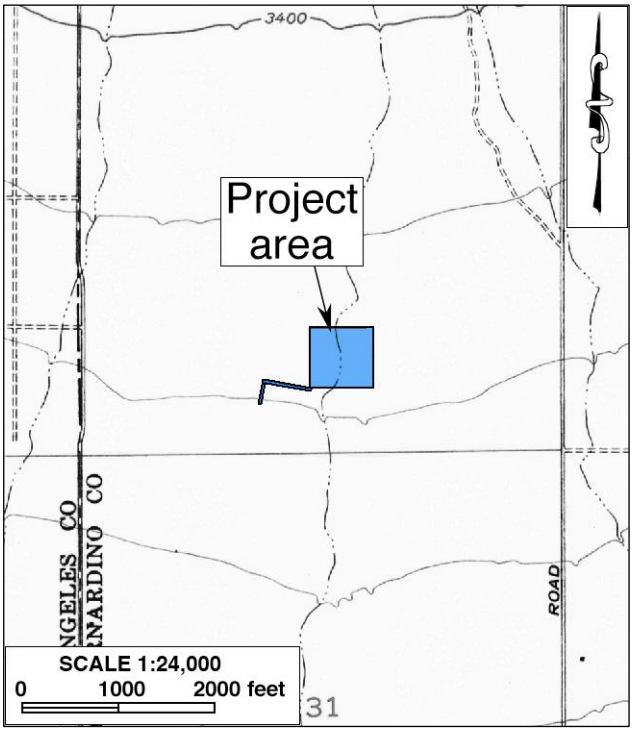


Figure 9. The project area and vicinity in 1952-1956. (Source: USGS 1956)

refuse and other waste were observed over much of the property. All of these items are clearly modern in age, and none of them demonstrate any historical or archaeological interest.

The portion of the California Aqueduct (East Branch) within the project boundaries includes a small segment of the concrete-lined main canal, the accompanying service roads, and the concrete overchute across the canal and at the southwestern end of the proposed pipeline alignment. All of these features evidently date to the original completion of the project in 1966-1973 (NETR Online 1974), and all of them retain relatively good integrity to relate to that era (Fig. 10).

Figure 10. Portion of the California Aqueduct in the project area. (Photograph taken on March 25, 2021; view to the south)

DISCUSSION

CEQA establishes that "a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (PRC §21084.1). "Substantial adverse change," according to PRC §5020.1(q), "means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired." According to PRC §5020.1(j), "'historical resource' includes, but is not limited to, any

object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California."

More specifically, CEQA guidelines state that the term "historical resources" applies to any such resources listed in or determined to be eligible for listing in the California Register of Historical Resources, included in a local register of historical resources, or determined to be historically significant by the lead agency (Title 14 CCR §15064.5(a)(1)-(3)). Regarding the proper criteria for the evaluation of historical significance, CEQA guidelines mandate that "generally a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing on the California Register of Historical Resources" (Title 14 CCR §15064.5(a)(3)). A resource may be listed in the California Register if it meets any of the following criteria:

(1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
(2) Is associated with the lives of persons important in our past.
(3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
(4) Has yielded, or may be likely to yield, information important in prehistory or history. (PRC §5024.1(c))

As stated above, the only potential "historical resource" identified within or adjacent to the project area during this study is a small portion of the California Aqueduct (East Branch) across the southwestern tip of the proposed pipeline alignment. Designated Site 36-021351 in the California Historical Resources Inventory, the site as a whole was determined eligible for listing in the California Register of Historical Resources during previous studies for its close association with the California State Water Project, a significant event in itself in the history of the state (Criterion 1), and as a distinguished engineering enterprise (Criterion 3; Anderson 2009:12; Ambacher 2011:5-6).

In light of the important role that the California State Water Project played in the growth of the state during the post-WWII era and the multitude of recognitions that the project has received for its engineering feat since the 1960s (see Anderson 2009:12 in App. 4), the present study is in agreement with the previous evaluation cited above. Furthermore, this study finds the portion of the aqueduct in the project area to retain sufficient historic integrity to reflect the identified aspects of significance. This portion of the California Aqueduct (East Branch), therefore, meets the definition of a "historical resource" for CEQA-compliance purposes in relation to the proposed project.

At the location where the project area extends across the aqueduct, preliminary construction plans call for the installation of a pump on or near the overchute to divert water from the open canal below into the proposed pipeline for conveyance to the recharge basin. Given the scale of these activities, the impact on the historic integrity of the 98-mile-long East Branch of the California Aqueduct in terms of setting, design, materials, workmanship, feeling, and association will be miniscule. In addition, the proposed pumping equipment and pipeline will not materially detract from the functional and atmospheric character of the aqueduct, itself a utilitarian water-conveyance facility, or from its associated features such as the overchute. Based on these considerations, the present study further concludes that the proposed project will not cause a substantial adverse change in the significance, integrity, and overall character of the aqueduct.

CONCLUSION AND RECOMMENDATIONS

In conclusion, the present study has identified one "historical resource" from the late historic period, the 1966-1973 California Aqueduct (Eastern Branch), as lying partially within the project area but has determined that the proposed project will not cause a substantial adverse change in the significance of this property. Therefore, CRM TECH presents the following recommendations to the MWA pursuant to CEQA provisions on cultural resources:

- The proposed project will have *no impact* on any known "historical resources."
- No further cultural resources investigation will be necessary for the project unless construction plans undergo such changes as to include areas not covered by this study.
- If any buried cultural materials are encountered during earth-moving operations associated with the project, all work within 50 feet of the discovery should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

REFERENCES

Ambacher, Patricia
2011 California Historical Resources Inventory record forms, Site 36-021351 (update). On file, South Central Coastal Information Center, California State University, Fullerton. (See Appendix 4)

Anderson, Katherine
2009 California Historical Resources Inventory record forms, Site 36-021351 (update). On file, South Central Coastal Information Center, California State University, Fullerton. (See Appendix 4)

Bean, Lowell John, and Charles R. Smith
1978 Serrano. In Robert F. Heizer (ed.): *Handbook of North American Indians,* Vol. 8: *California*; pp. 570-574. Smithsonian Institution, Washington, D.C.

Beck, Warren A., and Ynez D. Haase
1974 *Historical Atlas of California*. University of Oklahoma Press, Norman, Oklahoma.

City of Victorville
n.d. City History. http://www.ci.victorville.ca.us/Site/AboutVictorville.aspx?id=64.

ESA
2010 Preliminary Archaeological Survey Report for 98 Linear Miles of the East Branch Extension of the California Aqueduct for the DWR East Branch Enlargement Project, Los Angeles and San Bernardino Counties. On file, South Central Coastal Information Center, California State University, Fullerton.

GLO (General Land Office, U.S. Department of the Interior)
1856a Plat Map: Township No. 4 North Range No. 7 West, SBBM; surveyed in 1855-1856.
1856b Plat Map: Township No. 4 North Range No. 8 West, SBBM; surveyed in 1855.
1856c Plat Map: Township No. 5 North Range No. 7 West, SBBM; surveyed in 1853-1855.
1856d Plat Map: Township No. 5 North Range No. 8 West, SBBM; surveyed in 1853-1855.

Google Earth
1994-2020 Aerial photographs of the project vicinity; taken in 1994, 2002, 2005-2009, 2011, 2013, and 2015-2020. Available through the Google Earth software.

Gudde, Erwin G.
1998 *California Place Names: The Origin and Etymology of Current Geographical Names*; fourth edition, revised and enlarged by William Bright. University of California Press, Berkeley.
Hall, M.C.
2000 Archaeological Survey of 2472 Acres in Adjacent Portions of Lava, Lead Mountain, and Cleghorn Pass Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California (Volume I). Report prepared by the Archaeological Research Unit, University of California, Riverside, for the United States Marine Corps.
Kroeber, Alfred L.
1925 *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Washington, D.C.
McGinnis, Myra
1988 *The Hesperia Story: Indian Territory to Cityhood*. Myra McGinnis, Hesperia, California.
NETR (Nationwide Environmental Title Research) Online
1952-2016 Aerial photographs of the project vicinity; taken in 1952, 1953, 1954, 1968, 1974, 1978, 1994, 2002, 2005, 2009, 2010, 2012, 2014, and 2016. http://www.historicaerials.com.
NPS (National Park Service, U.S. Department of the Interior)
2001 *National Historic Trail Feasibility Study and Environmental Assessment: Old Spanish Trail, New Mexico, Colorado, Utah, Arizona, Nevada, California*. National Park Service, U.S. Department of the Interior, Washington, D.C.
Peirson, Erma
1970 *The Mojave River and Its Valley*. The Arthur H. Clarke Company, Glendale.
Strong, William Duncan
1929 *Aboriginal Society in Southern California*. University of California Publications in American Archaeology and Ethnology 26. Reprinted by Malki Museum Press, Banning, California, 1972.
USGS (United States Geological Survey, U.S. Department of the Interior)
1903 Map: San Antonio, Calif. (15', 1:62,500); surveyed in 1899-1900.
1937 Map: Shadow Mountains, Calif. (15', 1:62,500); surveyed in 1930-1937.
1942a Map: San Antonio, Calif. (15', 1:62,500); aerial photographs taken in 1941, field-checked in 1942.
1942b Map: Shadow Mountains, Calif. (15', 1:62,500); surveyed in 1930-1937; revised version.
1956 Map: Mescal Creek, Calif. (7.5', 1:24,000); aerial photographs taken in 1952, field-checked in 1956.
1968 Map: El Mirage, Calif. (7.5', 1:24,000); 1956 edition photorevised in 1968.
1969 Map: San Bernardino, Calif. (1:250,000); 1958 edition revised.
1995 Map: Mescal Creek, Calif. (7.5', 1:24,000); imagery taken in 1994.
Warren, Claude N.
1984 The Desert Region. In Michael J. Moratto (ed.): *California Archaeology*; pp. 339-430. Academic Press, Orlando, Florida.
Warren, Claude N., and Robert H. Crabtree
1986 Prehistory of the Southwestern Area. In Warren L. D'Azevedo (ed.): *Handbook of North American Indians*, Vol. 11: *Great Basin*; pp. 183-193. Smithsonian Institution, Washington, D.C.
Warren, Elizabeth von Till
2004 The Old Spanish National Historic Trail. http://oldspanishtrail.org/our-history.

APPENDIX 1:
PERSONNEL QUALIFICATIONS

PRINCIPAL INVESTIGATOR/HISTORIAN
Bai "Tom" Tang, M.A.

Education

1988-1993	Graduate Program in Public History/Historic Preservation, University of California, Riverside.
1987	M.A., American History, Yale University, New Haven, Connecticut.
1982	B.A., History, Northwestern University, Xi'an, China.
2000	"Introduction to Section 106 Review," presented by the Advisory Council on Historic Preservation and the University of Nevada, Reno.
1994	"Assessing the Significance of Historic Archaeological Sites," presented by the Historic Preservation Program, University of Nevada, Reno.

Professional Experience

2002-	Principal Investigator, CRM TECH, Riverside/Colton, California.
1993-2002	Project Historian/Architectural Historian, CRM TECH, Riverside, California.
1993-1997	Project Historian, Greenwood and Associates, Pacific Palisades, California.
1991-1993	Project Historian, Archaeological Research Unit, University of California, Riverside.
1990	Intern Researcher, California State Office of Historic Preservation, Sacramento.
1990-1992	Teaching Assistant, History of Modern World, University of California, Riverside.
1988-1993	Research Assistant, American Social History, University of California, Riverside.
1985-1988	Research Assistant, Modern Chinese History, Yale University.
1985-1986	Teaching Assistant, Modern Chinese History, Yale University.
1982-1985	Lecturer, History, Xi'an Foreign Languages Institute, Xi'an, China.

Cultural Resources Management Reports

Preliminary Analyses and Recommendations Regarding California's Cultural Resources Inventory System (with Special Reference to Condition 14 of NPS 1990 Program Review Report). California State Office of Historic Preservation working paper, Sacramento, September 1990.

Numerous cultural resources management reports with the Archaeological Research Unit, Greenwood and Associates, and CRM TECH, since October 1991.

PRINCIPAL INVESTIGATOR/ARCHAEOLOGIST
Michael Hogan, Ph.D., RPA*

Education

1991	Ph.D., Anthropology, University of California, Riverside.
1981	B.S., Anthropology, University of California, Riverside; with honors.
1980-1981	Education Abroad Program, Lima, Peru.
2002	Section 106—National Historic Preservation Act: Federal Law at the Local Level. UCLA Extension Course #888.
2002	"Recognizing Historic Artifacts," workshop presented by Richard Norwood, Historical Archaeologist.
2002	"Wending Your Way through the Regulatory Maze," symposium presented by the Association of Environmental Professionals.
1992	"Southern California Ceramics Workshop," presented by Jerry Schaefer.
1992	"Historic Artifact Workshop," presented by Anne Duffield-Stoll.

Professional Experience

2002-	Principal Investigator, CRM TECH, Riverside/Colton, California.
1999-2002	Project Archaeologist/Field Director, CRM TECH, Riverside.
1996-1998	Project Director and Ethnographer, Statistical Research, Inc., Redlands.
1992-1998	Assistant Research Anthropologist, University of California, Riverside
1992-1995	Project Director, Archaeological Research Unit, U. C. Riverside.
1993-1994	Adjunct Professor, Riverside Community College, Mt. San Jacinto College, U.C. Riverside, Chapman University, and San Bernardino Valley College.
1991-1992	Crew Chief, Archaeological Research Unit, U. C. Riverside.
1984-1998	Archaeological Technician, Field Director, and Project Director for various southern California cultural resources management firms.

Research Interests

Cultural Resource Management, Southern Californian Archaeology, Settlement and Exchange Patterns, Specialization and Stratification, Culture Change, Native American Culture, Cultural Diversity.

Cultural Resources Management Reports

Author and co-author of, contributor to, and principal investigator for numerous cultural resources management study reports since 1986.

Memberships

* Register of Professional Archaeologists; Society for American Archaeology; Society for California Archaeology; Pacific Coast Archaeological Society; Coachella Valley Archaeological Society.

PROJECT ARCHAEOLOGIST/FIELD DIRECTOR
Daniel Ballester, M.S., RPA (Registered Professional Archaeologist)

Education

2013	M.S., Geographic Information System (GIS), University of Redlands, California.
1998	B.A., Anthropology, California State University, San Bernardino.
1997	Archaeological Field School, University of Las Vegas and University of California, Riverside.
1994	University of Puerto Rico, Rio Piedras, Puerto Rico.
2007	Certificate in Geographic Information Systems (GIS), California State University, San Bernardino.
2002	"Historic Archaeology Workshop," presented by Richard Norwood, Base Archaeologist, Edwards Air Force Base; presented at CRM TECH, Riverside, California.

Professional Experience

2002-	Field Director/GIS Specialist, CRM TECH, Riverside/Colton, California.
2011-2012	GIS Specialist for Caltrans District 8 Project, Garcia and Associates, San Anselmo, California.
2009-2010	Field Crew Chief, Garcia and Associates, San Anselmo, California.
2009-2010	Field Crew, ECorp, Redlands.
1999-2002	Project Archaeologist, CRM TECH, Riverside, California.
1998-1999	Field Crew, K.E.A. Environmental, San Diego, California.
1998	Field Crew, A.S.M. Affiliates, Encinitas, California.
1998	Field Crew, Archaeological Research Unit, University of California, Riverside.

Cultural Resources Management Reports

Field Director, co-author, and contributor to numerous cultural management reports since 2002.

PROJECT ARCHAEOLOGIST/REPORT WRITER
Deirdre Encarnación, M.A.

Education

2003	M.A., Anthropology, San Diego State University, California.
2000	B.A., Anthropology, minor in Biology, with honors; San Diego State University, California.

Professional Experience

2004-	Project Archaeologist/Report Writer, CRM TECH, Riverside/Colton, California.
2001-2003	Part-time Lecturer, San Diego State University, California.
2001	Research Assistant for Dr. Lynn Gamble, San Diego State University.
2001	Archaeological Collection Catalog, SDSU Foundation.

Memberships

Society for California Archaeology; Society for Hawaiian Archaeology; California Native Plant Society; Journal of California and Great Basin Anthropology.

PROJECT ARCHAEOLOGIST
Arturo E. Aldaco, B.S.

Education

2020	B.S., Anthropology, University of California, Riverside.
2018	A.S., Anthropology, Chaffey College, Rancho Cucamonga, California.

Professional Experience

2021-	Project Archaeologist, CRM TECH, Riverside/Colton, California.
2020	Field Archaeologist, McKenna et al., Whittier, California.
2019-2020	Peer Educator, University of California, Riverside.
2019	Field Crew Member, Northern Arizona University: Belize Valley Archaeological Reconnaissance, San Ignacio, Belize.

APPENDIX 2

SUMMARY OF CULTURAL RESOURCES RECORDS SEARCH RESULTS

South Central Coastal Information Center
California State University, Fullerton
Department of Anthropology MH-426
800 North State College Boulevard
Fullerton, CA 92834-6846
657.278.5395 / FAX 657.278.5542
sccic@fullerton.edu
California Historical Resources Information System
Orange, Los Angeles, and Ventura Counties

3/15/2021 Records Search File No.: 22138.8285

Nina Gallardo
CRM TECH
1016 E. Cooley Drive, Suite A/B
Colton, CA 92324

Re: Record Search Results for the 3706A Cayucos Aqueduct Arch

The South Central Coastal Information Center received your records search request for the project area referenced above, located on the Mescal Creek, CA USGS 7.5' quadrangle(s). Due to the COVID-19 emergency, we have implemented new records search protocols, which limits the deliverables available to you at this time. **WE ARE ONLY PROVIDING DATA THAT IS ALREADY DIGITAL AT THIS TIME.** Please see the attached document on COVID-19 Emergency Protocols for what data is available and for future instructions on how to submit a records search request during the course of this crisis. If your selections on your data request form are in conflict with this document, we reserve the right to default to emergency protocols and provide you with what we stated on this document. You may receive more than you asked for or less than you wanted. The following reflects the results of the records search for the project area and a ½-mile radius:

As indicated on the data request form, the locations of resources and reports are provided in the following format: ☒ custom GIS maps ☐ shape files ☐ hand-drawn maps

Resources within project area: 1	P-36-021351
Resources within ½-mile radius: 0	None
Reports within project area: 1	SB-06652
Reports within ½-mile radius: 0	None

Resource Database Printout (list):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Digital Database (spreadsheet):	☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (list):	☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Report Digital Database (spreadsheet):	☒ enclosed	☐ not requested	☐ nothing listed
Resource Record Copies:	☒ enclosed	☐ not requested	☐ nothing listed
Report Copies:	☒ enclosed	☐ not requested	☐ nothing listed

OHP Built Environment Resources Directory (BERD) 2019: ☒ available online; please go to https://ohp.parks.ca.gov/?page_id=30338

Archaeo Determinations of Eligibility 2012: ☐ enclosed ☐ not requested ☒ nothing listed

Historical Maps: ☒ not available at SCCIC; please go to https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.02

Ethnographic Information: ☒ not available at SCCIC

Historical Literature: ☒ not available at SCCIC

GLO and/or Rancho Plat Maps: ☒ not available at SCCIC

Caltrans Bridge Survey: ☒ not available at SCCIC; please go to http://www.dot.ca.gov/hq/structur/strmaint/historic.htm

Shipwreck Inventory: ☒ not available at SCCIC; please go to http://shipwrecks.slc.ca.gov/ShipwrecksDatabase/Shipwrecks_Database.asp

Soil Survey Maps: (see below) ☒ not available at SCCIC; please go to http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System,

Isabela Kott
GIS Technician/Staff Researcher

Enclosures:

(X) Covid-19 Emergency Protocols for San Bernardino County Records Searches – 2 pages

(X) Custom Maps – 1 page

(X) Resource Digital Database (spreadsheet) – 1 line

(X) Report Digital Database (spreadsheet) – 1 line

(X) Resource Record Copies – (all) 71 pages

(X) Report Copies – (project area) 166 pages

Emergency Protocols for San Bernardino County Records Searches

These instructions are for qualified consultants with a valid Access and Use Agreement.

WE ARE ONLY PROVIDING DATA THAT IS ALREADY DIGITAL AT THIS TIME. WE ARE NOT PROVIDING SHAPEFILE DATA FOR SAN BERNARDINO COUNTY; YOU WILL ONLY RECEIVE A CUSTOM DIGITAL MAP.

We can only provide you information that is already in digital format; therefore, your record search may or may not be complete. Some records are only available in paper formats and so may not be available at this time. This also means that there may be data missing from the database bibliographies; locations of resource and report boundaries may be missing or mis-mapped on our digital maps; and that no pdf of a resource or report is available or may be incomplete.

As for the GIS mapped data, bibliographic databases, and pdfs of records and reports; not all the data in our digital archive for San Bernardino County was processed by SCCIC, therefore, we cannot vouch for its accuracy. Accuracy checking and back-filling of missing information is an on-going process under normal working conditions and cannot be conducted under the emergency protocols.

This is an extraordinary and unprecedented situation. Your options will be limited so that we can help as many of you as possible in the shortest amount of time. You may not get everything you want and/or you may get more than you want. We appreciate your patience and resilience.

Please send in your request via email using the data request form along with the associated shape files and pdf map of the project area. If you have multiple SBCO jobs for processing, you may not get them all back at the same time. Use this data request form:

http://web.sonoma.edu/nwic/docs/CHRISDataRequestForm.pdf

Please make your selections on the data request form based on the following instructions.

1. Keep your search radius as tight as possible, but we understand if you have a requirement. The wider the search radius, the higher the cost. You are welcome to request a Project area only search, but please make it clear on the request form that that is what you are seeking.

2. You will get custom maps of resource locations for the project area and the radius that you choose. We will only be providing maps of report locations for the project area and up to a ¼-mile radius. If you need bibliographic information for more than ¼-mile radius – you will be charged for all report map features within your selected search radius. You can opt out of having us create custom maps but you still pay for the map features in the project area or the selected search radius if you want the associated bibliographic information or pdfs of resources or reports.

3. You can request copies of site records and reports if they are digitally available.

4. You will also get the bibliographies (List, Details, Spreadsheet) that you choose for resources and reports. Because the bibliographic database is not yet complete, you will only get what is available at the time of your records search.
5. If you request more than what we are offering here, we may provide it if it is available or we reserve the right to default to these instructions. If you want copies of resources and reports that are not available digitally at the time of the search, you can send us a separate request for processing when we are allowed to return to the office. Fees will apply.

6. **You will need to search the OHP BERD yourself for your project area and your search radius.** This replaces the old OHP HPD. It is available online at the OHP website.

7. You can go online to find historic maps, so we are not providing them at this time.

8. Your packet will be sent to you electronically via Dropbox. We use 7-zip to password protect the files so you will need both on your computers. We email you the password. If you can't use Dropbox for some reason, then you will need to provide us with your Fed ex account number and we will ship you a disc with the results. As a last resort, we will ship on a disc via the USPS. You may be billed for our shipping and handling costs.

9. We will be billing you at the staff rate of $150 per hour and you will be charged for all resources and reports according to the "custom map charges", even if you don't get a custom or hand-drawn map. You will also be billed 0.15 per pdf page, as usual. Quad fees will apply if your research includes more than 2 quads. The fee structure for custom maps was designed to mimic the cost of doing the search by hand so the fees are comparable.

10. A copy of the digital fee structure is available on the Office of Historic Preservation website under the CHRIS tab. If the digital fee structure is new to you or you don't understand it; please ask questions before we process your request, not after. Thank you.

APPENDIX 3

NATIVE AMERICAN SACRED LANDS FILE SEARCH RESULTS

NATIVE AMERICAN HERITAGE COMMISSION

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

March 2, 2021

Nina Gallardo
CRM TECH

Via Email to: ngallardo@crmtech.us

Re: Proposed Oeste Recharge Project, San Bernardino County

Dear Ms. Gallardo:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded 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. I suggest you contact all of those indicated; if they cannot supply information, they might 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 me. 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
San Bernardino County
3/2/2021

Morongo Band of Mission Indians
Robert Martin, Chairperson
12700 Pumarra Road — Cahuilla
Banning, CA, 92220 — Serrano
Phone: (951) 849 - 8807
Fax: (951) 922-8146
dtorres@morongo-nsn.gov

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

Quechan Tribe of the Fort Yuma Reservation
Manfred Scott, Acting Chairman
Kw'ts'an Cultural Committee
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (928) 750 - 2516
scottmanfred@yahoo.com

Quechan Tribe of the Fort Yuma Reservation
Jill McCormick, Historic Preservation Officer
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (760) 572 - 2423
historicpreservation@quechantribe.com

San Fernando Band of Mission Indians
Donna Yocum, Chairperson
P.O. Box 221838 — Kitanemuk
Newhall, CA, 91322 — Vanyume
Phone: (503) 539 - 0933 — Tataviam
Fax: (503) 574-3308
ddyocum@comcast.net

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

Serrano Nation of Mission Indians
Wayne Walker, Co-Chairperson
P. O. Box 343 — Serrano
Patton, CA, 92369
Phone: (253) 370 - 0167
serranonation1@gmail.com

Serrano Nation of Mission Indians
Mark Cochrane, Co-Chairperson
P. O. Box 343 — Serrano
Patton, CA, 92369
Phone: (909) 528 - 9032
serranonation1@gmail.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Proposed Oeste Recharge Project, San Bernardino County.

APPENDIX 4

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM RECORD FORMS

Site 36-021351 (California Aqueduct, East Branch)

***P3a. Description:**
This resource is the California Aqueduct East Branch, a 98-mile-long segment of the 444-mile-long California Aqueduct. Part of the California State Water Project, the California Aqueduct was constructed between 1966 and 1973. The Eldorado-Lugo and Lugo-Mohave 500kV transmission lines cross the resource in the northern foothills of the west end of the San Bernardino Mountains, approximately 1.25 miles south of Hesperia Airport and 3.5 miles north of the aqueduct's intersection with the Silverwood Lake Reservoir.

The California Aqueduct has previously been recorded by URS (2008), ESA (2009), Pacific Legacy (2013), and Davis (2017).

This segment of the California Aqueduct is a concrete-lined trapezoidal-shaped open canal, approximately 80 feet in width, and runs in a generally north-northwest to south-southeast direction. There is a paved access road on the easterly side of the aqueduct, and an unpaved access road on the westerly side. It is in good condition. Sandy banks rise on the far side of each access road at this location, and the surrounding terrain features creosote scrub community vegetation.

***P11. Report Citation:**(cite survey report and sources, or enter"none.")
Historic Resources Assessment Report for the Eldorado-Lugo-Mohave Capacitor Project, San Bernardino County, California (2018).

California Aqueduct East Branch (P-36-021351) at transmission corridor, view to southwest.

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

PRIMARY RECORD

Primary # P-36-021351 (Update)
HRI #
Trinomial
NRHP Status Code

Other Listings
Review Code **Reviewer** **Date**

 *__Resource Name or #:__ California Aqueduct East Branch

P1. Other Identifier: East Branch of the California Aqueduct (EBA) (Anderson 2009)
***P2. Location:** ☒ **Not for Publication** ☐ **Unrestricted** ***a. County:** San Bernardino
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad:** Hesperia and Silverwood Lake **Date:** 1956 (PR1956) and 1996, (see Continuation Sheet)**; S.B.B.M.**
c. Address: None **City:** N/A Zip: N/A
d. UTM: Nad83**; Zone: 11**N Segment 1: 469578mE/ 3804850mN (N end), 470149mE/ 3803997mN (S end); Segment 2: 470633mE/ 3802256mN (N end), 470988mE/ 3801320mN (S end); Segment 3: 470304mE/ 3803240mN (N end), 470625mE/ 3802391mN (S end) (Trimble Geo TX)

e**. Other Locational Data**: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: 3,400 feet amsl
From Interstate 15 in Victorville, travel south and exit on Main Street in Hesperia. Travel east approximately 5.0 miles to C Ave. Turn right (south) onto C Ave. and proceed approximately 2.5 miles to Old Ranchero Road. Turn right (west) on Old Ranchero Road. Old Ranchero Road turns into Ranchero Road. Travel a total of 1.35 miles to the aqueduct and park to access the documented Segment 1, approximately 175 ft south of the road (*see* Continuation Sheet).

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
The California Aqueduct East Branch is a 98-mile segment of the larger 444-mile California Aqueduct. A small segment of the California Aqueduct East Branch, on Baldy Mesa topographic quadrangle sheet, was originally recorded by Hollins (2008) and later the entire 98-mile segment was documented and evaluated by Anderson (2009). The California Aqueduct East Branch was constructed between 1966 and 1973. Anderson (2009) evaluated the California Aqueduct East Branch under NRHP Criterion G within the context of California Water conveyance systems and recommended the resource as appearing eligible for the National Register of Historic Places (NRHP) and the California Register of Historic Resources (CRHR) under Criteria A/1 and C/3. The Office of Historic Preservation did not list the California Aqueduct as a resource or property in 2015 (OHP 2015). See Hollins (2008) and Anderson (2009) records for additional historical information and a comprehensive description and discussion of the California Aqueduct East Branch (see Continuation Sheet) and BSO form for evaluation .

***P3b. Resource Attributes:** (List attributes and codes) HP20 (Canal/Aqueduct)
***P4. Resources Present:** ☐Building ☒Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5b. Description of Photo: Camera A2, 08/28/2012. Frame 1073. View southwest. Overview of documented segment 1 at SCE transmission line crossing, depicting colluvial erosion on west side of aqueduct, west of paved access road.
***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both

***P7. Owner and Address:**
California Department of Water Resources, 1416 9th Street Sacramento, CA 95814

***P8. Recorded by:** (Name, affiliation, and address) M. O'Neill, P. Clarkson, C. Hagan
Pacific Legacy, Inc.
44702 10th St. West,
Lancaster, CA 93534

***P9. Date Recorded:** 08/06/12, 08/28/12, and 07/25/2013
***P10. Survey Type:** Intensive Survey

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Pacific Legacy, Inc. (2015) *Class III Cultural Resources Inventory for Southern California Edison's Coolwater-Lugo Transmission Project, San Bernardino County, California*. Submitted to Bureau of Land Management, Barstow Field Office, California Desert District

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

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** (Assigned by recorder) California Aqueduct East Branch ***NRHP Status Code** 2S2

B1. Historic Name: California Aqueduct East Branch
B2. Common Name: California Aqueduct East Branch
B3. Original Use: Water Conveyance System B4. Present Use: Water Conveyance System
***B5. Architectural Style:** N/A
***B6. Construction History:** Built / installed between 1966-1973.
***B7. Moved? ■ No □ Yes □ Unknown Date:** N/A **Original Location:** N/A
***B8. Related Features**: All features and facilities within the California State Water Project (CSWP) including 34 storage facilities, reservoirs, and lakes; 20 pumping plants; 4 pumping-generating plants; 5 hydroelectric power plants; and roughly 701 miles of open canals and pipe.
B9a. Architect: State of California b. Builder: State of California
***B10. Significance: Theme:** Water Conveyance **Area:** California
Period of Significance: 1966-1973 **Property Type**: Water Conveyance System - Aqueduct
Applicable Criteria: NRHP / CRHR Criterion A / 1 and C / 3.
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The East Branch of the California Aqueduct was constructed between 1966 and 1973 as a 98-mile segment of the 444-mile California Aqueduct system.

The East Branch of the California Aqueduct is officially determined eligible for the NRHP and CRHR under Criterion A / 1 for its association with the history of water systems development in California, and under Criterion C / 3 for its engineering and design. Although the resource was not 50 years old at the time it was recommended eligible for listing in the NRHP / CRHR, it was evaluated under Criterion G of the NRHP because it has achieved significance in the past 50 years in the context of California water conveyance systems and the modern period of California water reosurce planning. This East Branch retains a high level of integrity of location, design, setting, materials, workmanship, feeling, and association.

B11. Additional Resource Attributes: HP20

***B12. References:** *Pacific Legacy, Inc. (2015) Class III Cultural Resources Inventory for Southern California Edison's Coolwater-Lugo Transmission Project, San Bernardino County, California. Submitted to Bureau of Land Management, Barstow Field Office, California Desert District.*

B13. Remarks: None

***B14. Evaluator:** Wendy L. Tinsley Becker, RPH, AICP, Principal & Christina Chiang, Architectural Historian | Urbana Preservation & Planning, LLC | www.urbanapreservation.com
***Date of Evaluation:** November 13, 2014

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

Refer to DPR 523 J for site location map(s).

LINEAR FEATURE RECORD

 Resource Name or #: (Assigned by recorder) California Aqueduct East Branch

L1. Historic and/or Common Name: East Branch of the California Aqueduct

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

b. Location of point or segment: (Provide UTM coordinates, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map)

Documented segment 1 is located approximately 730 ft. north of Ranchero Road, where Ranchero Road passes over the California Aqueduct East Branch. The north end of documented segment 1 is located at 469578mE/ 3804850mN; the south end is at 470149mE/ 3803997mN.

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

The California Aqueduct East Branch was constructed between 1966 and 1973. This segment of the aqueduct is a concrete lined trapezoidal shaped canal with one steel escape ladder. The canal in this section is oriented slightly northwest-southeast. A paved access road parallels the canal on both sides. An approximate 15 ft tall cut parallels the aqueduct on the southern side with deep fissures from colluvial erosion. A triple concrete overchute is further south along the canal. An overcrossing at Ranchero Road is located in the northern portion of the documented section.

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

a. Top Width: ~90-120 feet
b. Bottom Width: 12-16 feet
c. Height or Depth: 20 feet
d. Length of Segment: 0.65 miles

L5. Associated Resources: None

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

This segment is situated on the margins of residential neighborhoods, adjacent to a rural setting. The area is within a desert juniper scrub vegetation zone. Vegetation in the immediate vicinity includes juniper, Joshua tree, yucca, buckwheat, sage and various other shrubs and grasses. The soils are brown sandy loam; the slope is minimal at the aqueduct and 10-30° adjacent with colluvial erosion evident on the west side cut, west of the access road. The exposure is 100%, aspect is to the southeast.

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

08/28/12, Camera A2, Frame 1076: View towards Ranchero Road

L7. Integrity Considerations:

The resource is well maintained in operating condition and still functions as a water conveyance system.

L8a. Photograph, Map or Drawing

L8b. Description of Photo, Map, or Drawing (View, scale, etc.)
08/28/12, Camera A2, Frame 1075. Overview of documented section of canal towards Ranchero Road. View NW.

L9. Remarks: None

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

M. O'Neill, C. Hagan
Pacific Legacy, Inc.
44702 10th St. West,
Lancaster, CA 93534

L11. Date: 08/28/2012

LINEAR FEATURE RECORD

 Resource Name or #: (Assigned by recorder) California Aqueduct East Branch

L1. Historic and/or Common Name: East Branch of the California Aqueduct

L2a. Portion Described: ☐ Entire Resource ☒Segment ☐ Point Observation **Designation:** Segment 2

b. Location of point or segment: (Provide UTM coordinates, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map)

Documented segment 2 is located south of Summit Valley Road approximately 0.7 miles and accessed by the paved access road along the canal. The north end of documented segment 2 is located at 470633mE/ 3802256mN; the south end is at 470988mE/ 3801320mN.

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

The California Aqueduct East Branch was constructed between 1966 and 1973. This segment of the aqueduct is a concrete lined trapezoidal shaped canal with two steel escape ladders and numbering "401.50" on the concrete wall on the west side. The numbers are painted white over a black background. The canal in this section is oriented northwest-southeast with a slight curve. A paved access road parallels the canal on both sides.

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

a. Top Width: ~90-120 feet
b. Bottom Width: 12-16 feet
c. Height or Depth: 20 feet
d. Length of Segment: 0.65 miles

L5. Associated Resources: None

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

This segment is situated in a rural setting within a desert juniper scrub vegetation zone. Vegetation in the immediate vicinity includes juniper, Joshua tree, yucca, buckwheat, sage and various other shrubs and grasses. The soils are brown sandy loam, the slope is minimal at the aqueduct and increases to 30-45° adjacent. The exposure is 100%, aspect is 360°. Segment 2 of the aqueduct cuts through a hilly area and has been impacted by substantial erosional processes (colluvial) as noted by rivulets and deep fissures in the adjacent hillslopes.

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

08/06/12, Camera A2 Frame 1027: Numbers visible on west side of canal wall.

L7. Integrity Considerations:

The resource is well maintained in operating condition and still functions as a water conveyance system.

L8a. Photograph, Map or Drawing

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

08/06/12. Camera A2: Frame 1021 Overview of documented section of canal from east bank, with transmission lines crossing canal. View south.

L9. Remarks: The aqueduct continues to the south beyond the survey corridor.

L10. Form Prepared by:

M. O'Neill, P. Clarkson
Pacific Legacy, Inc.
44702 10th St. West,
Lancaster, CA 93534

L11. Date: 08/06/2012

LINEAR FEATURE RECORD

 Resource Name or #: (Assigned by recorder) California Aqueduct East Branch

L1. Historic and/or Common Name: East Branch of the California Aqueduct

L2a. Portion Described: ☐ Entire Resource ☒ Segment ☐ Point Observation **Designation:** Segment 3

b. Location of point or segment: (Provide UTM coordinates, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map)

Documented segment 3 located between Segment 1 and 2, south of Summit Valley Road. The north end of documented segment 3 is located at 470304mE/ 3803240mN; the south end is at 470625mE/ 3802391mN.

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

The California Aqueduct East Branch was constructed between 1966 and 1973. This segment of the aqueduct is a concrete lined trapezoidal shaped canal with two steel escape ladder, one each side of the aqueduct. The canal in this section is oriented slightly northwest-southeast. A paved access road parallels the canal on the eastern side and an unpaved road is on the western side. North of this segment, the aqueduct continues underground as it passes across the Antelope Valley and reemerges on the ridge north of the valley.

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

a. Top Width: ~90-120 feet
b. Bottom Width: 12-16 feet
c. Height or Depth: 20 feet
d. Length of Segment: 0.57 miles

L5. Associated Resources: None

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

This segment is situated in the Antelope Valley. The area is within a desert juniper scrub vegetation zone. Vegetation in the immediate vicinity includes juniper, Joshua trees, yucca, buckwheat, sage, and various other scrubs and grasses. The soils are brown sandy loam; the slope is minimal at the aqueduct and increases to approximately 40° where it continues underground. Exposure is 100%, aspect is to the southeast

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

07/25/13, Camera A, Frame 5179 south end of exposed aqueduct

L7. Integrity Considerations:

The resource is well maintained in operating condition and still functions as a water conveyance system.

L8a. Photograph, Map or Drawing

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

07/25/13, Camera A, Frame 5182 North end of underground aqueduct. View SW.

L9. Remarks: None

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

M. O'Neill, D. Trout, D. Schroeder, M. Pecheco
Pacific Legacy, Inc.
44702 10th St. West,
Lancaster, CA 93534

L11. Date: 07/25/2013

Camera Format: Digital (Camera A and A2)
Original Media Kept at: Pacific Legacy, Inc., 44702 10th St. West, Lancaster, CA 93534

Mo.	Day	Time	Exp./Frame	Subject/Description	View Toward	Accession #
				Camera A2 (2012)		
8	6		1017	Overview of California Aqueduct, Segment 2	N	
8	6		1018	Overview of California Aqueduct, Segment 2	N	
8	6		1019	Overview of aqueduct from northern boundary of Segment 2, crew member to the south	S	
8	6		1020	Overview of aqueduct from northern boundary os Segment 2, crew member to the south	S	
8	6		1021	Overview of aqueduct from northern boundary os Segment 2, crew member to the south	S	
8	6		1022	Overview of aqueduct from southern boundary of Segment 2. with crew member at northern boundary	N	
8	6		1023	Overview of aqueduct from southern boundary of Segment 2. with crew member at northern boundary	N	
8	6		1024	Transmission line running over California Aqueduct	SW	
8	6		1025	Transmission line running over California Aqueduct	SW	
8	6		1026	Deleted	----	
8	6		1027	Painting along western bank of Segment 2 of aqueduct	W	
8	6		1028	Painting along western bank of Segment 2 of aqueduct	W	8
				Camera A2 (2012)		
8	28		1071-1072	Overview of California Aqueduct	SE	
8	28		1073-1074	Overview of documented segment 1 at SCE transmission line crossing, depicting colluvial erosion on west side of aqueduct, west of paved access road.	SW	
8	28		1075-1076	Overview of segment 1 with Ranchero Road	NW	
				Camera A (2013)		
7	25		5179	South end of exposed Aqueduct, Segment 3	NE	
7	25		5180	South end of exposed Aqueduct, Segment 3	NE	
7	25		5181	North end of underground Aqueduct, Segment 3	SW	
7	25		5182	North end of underground Aqueduct, Segment 3	SW	

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

Primary #: P-36-021351 (Update)

HRI #:

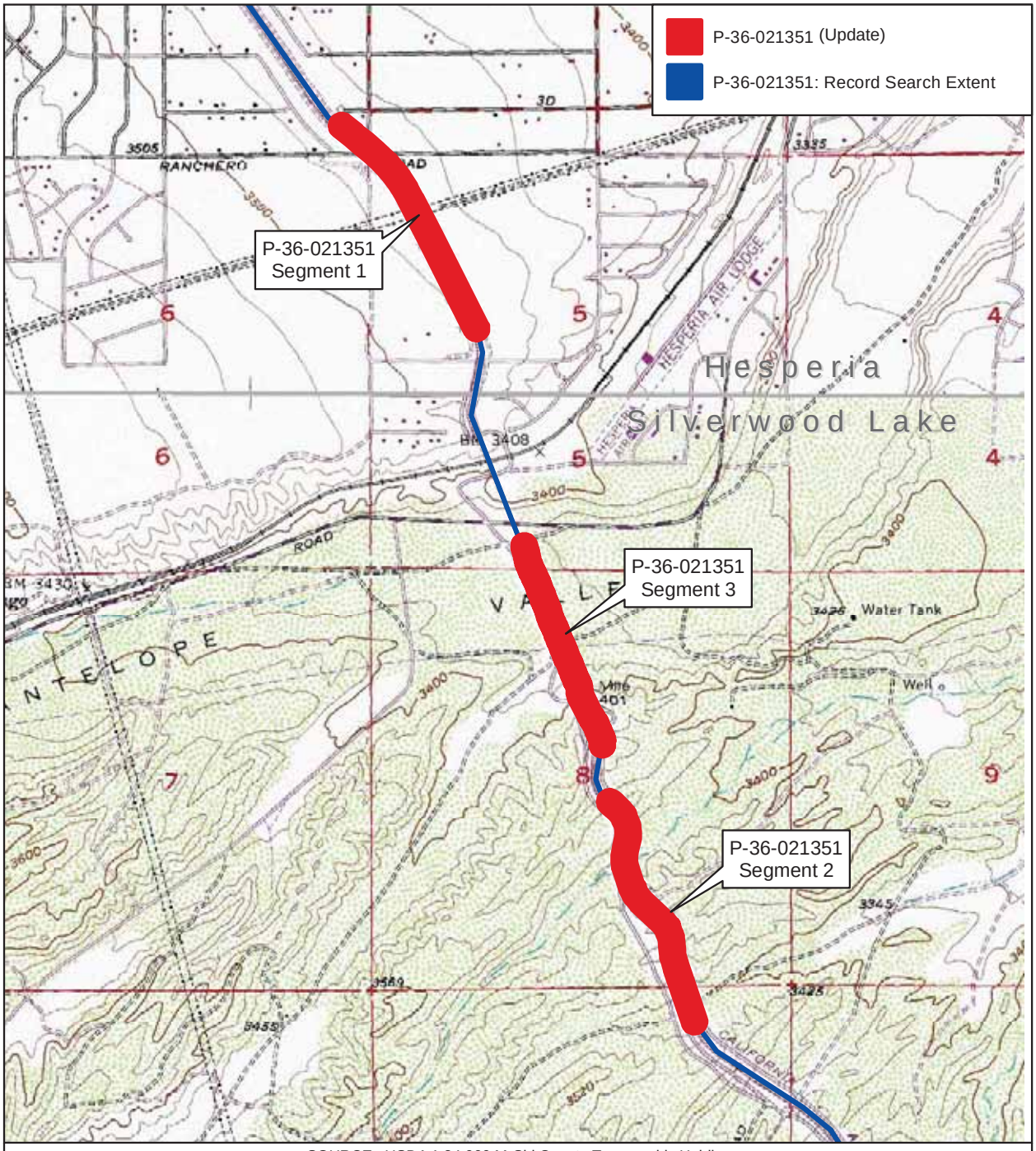
Trinomial:

LOCATION MAP

Page: 7 **of** 8

***Resource Name or # (Assigned by recorder)** California Aqueduct East Branch

***Map Name:** Hesperia; Silverwood Lake ***Scale:** 1:24,000 ***Date of Map:** 1956 (PR 1980); 1996

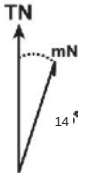


SOURCE: USDA 1:24,000 MrSid County Topographic Holdings
USGS County Mosaics.

Quadrangle Location

Miles
0 0.5 1

0 0.5 1
Kilometers



DPR 523J (1/95)

***Required Information**

*Recorded by: M. O'Neill *Date: 07/25/2013 ☒ Continuation ☒ Update

***P2. Location:**
Segment 1
***b. USGS 7.5' Quad:** Hesperia **Date:** 1956 (PR 1980) **T**4N; **R**4W;
SE ¼ of SE¼ of Sec 31;
SW ¼ of SW¼ of Sec 32;
b. USGS 7.5' Quad: Hesperia **Date:** 1956 (PR 1980) **T**3N; **R**4W;
NE ¼ of NE ¼ of Sec 6;
W ½ of NW ¼ of Sec 5;
SE ¼ of NW ¼ of Sec 5;

Segment 2:
b. USGS 7.5' Quad: Silverwood Lake **Date:** 1996 **T**3N; **R**4W;
W ½ of SE¼ of Sec 8;
SE ¼ of SE ¼ of Sec 8;
N ½ of NE ¼ of Sec 17;

Segment 3:
b. USGS 7.5' Quad: Silverwood Lake **Date:** 1996 **T**3N; **R**4W;
SE ¼ of SW ¼ of Sec 5;
E ½ of NW¼ of Sec 8;
W ½ of NE ¼ of Sec 8;

***P2e. Other Locational Data**
To reach the documented Segment 2, proceed from Old Ranchero Road to Summit Valley Road. Turn left (south) on to Summit Valley Road and continue approximately 1.40 miles and make a sharp left on to an unnamed paved aqueduct service road. Go through the gate and proceed south along the aqueduct to a paved service road, under the transmission lines. Turn Continue 0.7 miles on the unnamed road to reach the northern most exposed portion of Segment 2.

To reach the documented Segment 3, proceed from Old Ranchero Road to Summit Valley Road. Turn left (south) on to Summit Valley Road and continue approximately 1.40 miles and make a sharp left on to the paved aqueduct service road. Go through the gate and proceed south along the aqueduct to a paved service road, under the transmission lines, and park.

***P3a. Description:**
This record documents three segments of the California Aqueduct East Branch situated in the Antelope Valley, near Hesperia, in San Bernardino County. Segment 1 is the northern segment and located north of Ranchero Road. Segment 2 is the southern segment located approximately 0.7 miles south of Summit Valley Road. Segment 3 is located between Segment 1 and 2, immediately south of Summit Valley Road. The resource is in good and well maintained condition and continues to functions as a water conveyance system.

References:
Anderson, K.
2009 Site record for P-36-021351. On file at the San Bernardino Archaeological Information Center, Redlands, California.

Hollins, J.
2008 Site record for P-36-021351. On file at the San Bernardino Archaeological Information Center, Redlands, California.

Office of Historic Preservation (OHP), California
2015 California Historical Resources, San Bernardino County. Digital list, http://www.ohp.parks.ca.gov/ListedResources/?view=county&criteria=36., accessed February 2015.

1067405 Update 8/13

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

Primary # 36-021351
HRI #
Trinomial CA-SBR-15913 H
NRHP Status Code

Other Listings
Review Code Reviewer Date

 *Resource Name or #: 36-021351 (Goodwin Drive/Goss Road Bridge)

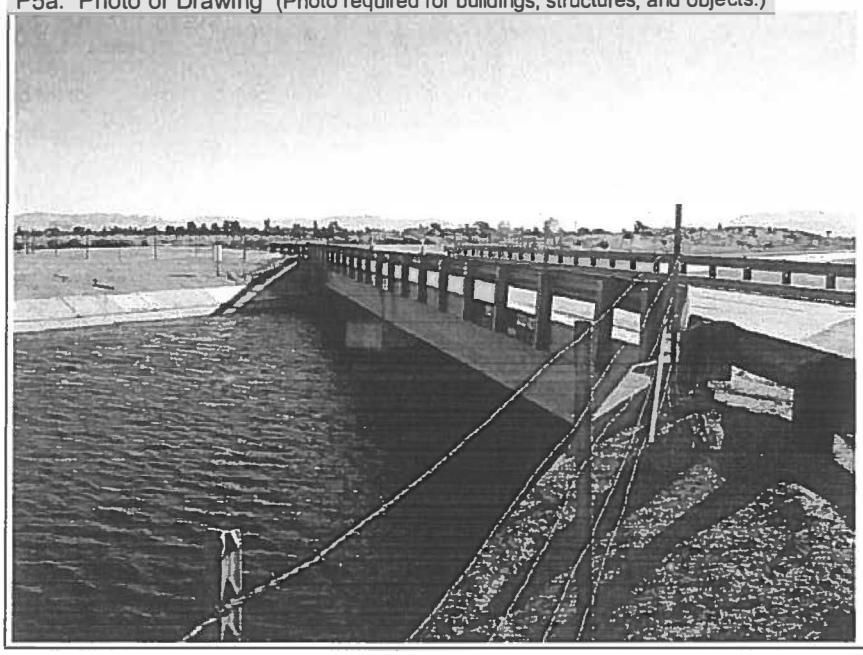
P1. Other Identifier: Goodwin Drive Bridge
*P2. Location: ☐ Not for Publication ■ Unrestricted *a. County: San Bernardino
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
*b. USGS 7.5' Quad: Baldy Mesa Date: 1956 T 4N ; R 7W ; SW ¼ of SE ¼ of Sec 6; S.B.B.M.
c. Address: City: Zip:
d. UTM: Zone: 11 ; 459581 mE/ 3812825 mN (G.P.S.)
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: 3471
From exit 143 of I-15, head west 4 miles on Main St/ Phelan Rd. turn right on Baldy Mesa and head north 2 miles to Desert Road. Turn right and head west .6 miles to bridge (road becomes Goodwin Dr.)

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

Goodwin Drive /Goss Road is a narrow, unpaved, minor collector road located in rural San Bernardino County west of the City of Hesperia. The Goodwin Drive/Goss Road Bridge crosses the California Aqueduct (East Branch), and is approximately 134 feet long and 30 feet wide. It is a two span reinforced concrete slab bridge. The bridge has vertical metal beam railings and recessed concrete panels on spans of the vertical side walls. A single, skewed rectangular reinforced concrete pier supports the bridge above the aqueduct.

*P3b. Resource Attributes: HP19. Bridge
*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: Goodwin Drive/Goss Road Bridge, facing east

*P6. Date Constructed/Age and Sources: 1970 ■Historic ☐Prehistoric ☐Both

*P7. Owner and Address:
Department of Water Resources
3500 Industrial Blvd.
West Sacramento, CA 95691

*P8. Recorded by:
Katherine Anderson | ESA
2600 Capitol Ave, Ste 200
Sacramento CA 95816

*P9. Date Recorded: 11/1/11
*P10. Survey Type: intensive

*P11. Report Citation: ESA, 2012. Historic Resources Evaluation Report ror the Seismic Retrofit of Six Bridges Over the California Aqueduct, Near Hesperia, San Bernardino County, and Kern County, California. Prepared for DWR. April 2012.

*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

Primary # 36-021351
HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

*NRHP Status Code 3D

*Resource Name or # 36-021351 (Goodwin Drive/Goss Road Bridge)

B1. Historic Name: Goodwin Drive/Goss Road Bridge
B2. Common Name: Goodwin Drive/Goss Road Bridge
B3. Original Use: bridge
B4. Present Use: bridge
*B5. **Architectural Style:** concrete slab
*B6. **Construction History:**
1970 Original Construction

*B7. **Moved?** ■No □Yes □Unknown **Date:** **Original Location:**
*B8. **Related Features:**
California Aqueduct

B9a. Architect: DWR; Moffat & Nichol Engineers of Long Beach
b. Builder: Granite Construction Company
*B10. **Significance: Theme:** water conveyance
Area: Southern California
Period of Significance: 1960-1974
Property Type: bridge
Applicable Criteria: n/a

The Goodwin Drive/Goss Road Bridge was constructed in 1971 during the construction of the East Branch of the California Aqueduct. DWR, as well as Moffat & Nichol Engineers from Long Beach, California designed the bridge. Granite Construction Company constructed it. It does not appear to have been altered since its original construction.

Goodwin Drive/Goss Road Bridge is a contributor to the California Aqueduct, and is peripherally associated with the history of major water systems development in California. The October 2011 Caltrans Historic Highway Bridge Inventory lists the bridge as a Category 5 resource, that is, as not eligible for the NRHP. However, the bridge has been re-evaluated and determined to be a contributing element of the California Aqueduct, which has been recommended eligible for listing in the NRHP.

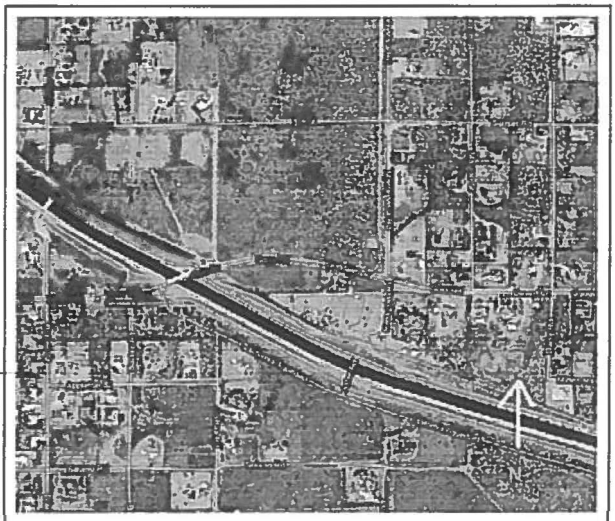
Integrity. Goodwin Drive/Goss Road Bridge appears unaltered from its original design. Little to no additions or modifications have been made to the bridge. Goodwin Drive/Goss Road Bridge maintains integrity of location, design, materials, workmanship, association, and feeling. Since the original construction of the bridges, some single family residential construction has occurred in the vicinity of the Goodwin Drive/Goss Road, resulting in change to the rural desert setting of the bridge. These alterations of setting have not significantly detracted from the integrity of the bridge. Goodwin Drive/Goss Road Bridge therefore retains sufficient physical integrity to convey any potential historical significance.

B11. Additional Resource Attributes: HP19. Bridge

*B12. **References:**

B13. Remarks:

*B14. **Evaluator:** Katherine Anderson | ESA
2600 Capitol Ave, Ste 200
Sacramento CA 95816
*Date of Evaluation: 11/22/11



(This space reserved for official comments.)

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

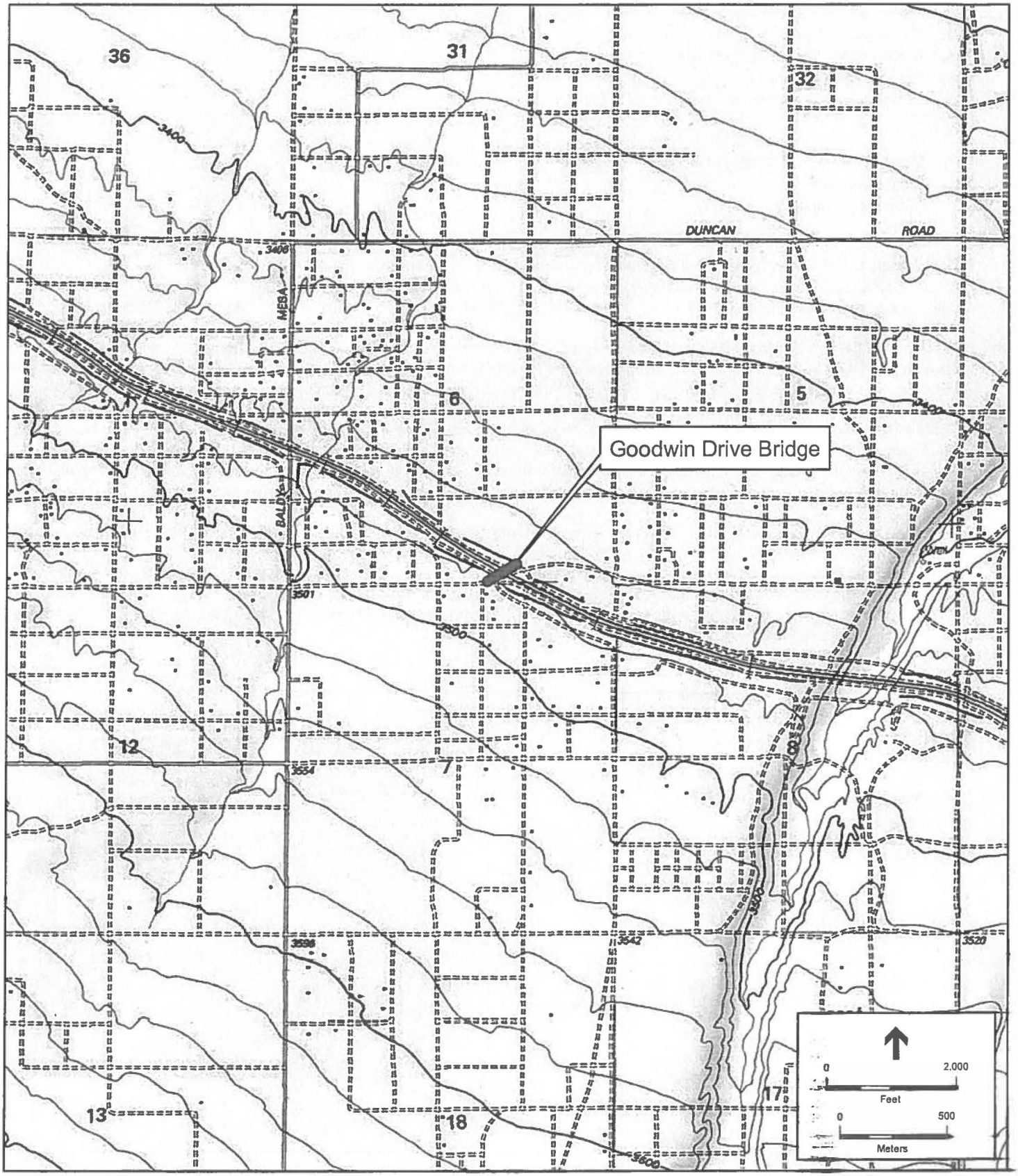
LOCATION MAP

Primary # 36-021351
HRI #
Trinomial

* Resource Name or Number: 36-021351 (Goodwin Drive Bridge)

*Map name: Baldy Mesa (1956 PR 1988)

*Scale: 1:24000



*Required Information

1067405 Update 8/13

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

Primary # 36-021351
HRI #
Trinomial CA-SBR-15913H
NRHP Status Code

Other Listings
Review Code | Reviewer | Date

*Resource Name or #: 36-021351 (Duncan Road Bridge)

P1. Other Identifier: Duncan Road Bridge

***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted** ***a. County:** San Bernardino

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

***b. USGS 7.5' Quad:** Baldy Mesa **Date:** 1956 **T 4N ; R 6W ;** NE ¼ **of NE ¼ of Sec** 2; S.B.**B.M.**

c. Address: City: Zip:

d. UTM: Zone: 11 ; 456624 mE/ 3814368 mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: 3481 ft

From Exit 147 of I-15, head west 7 miles on Bear Valley Road (which becomes Duncan Road) to bridge.

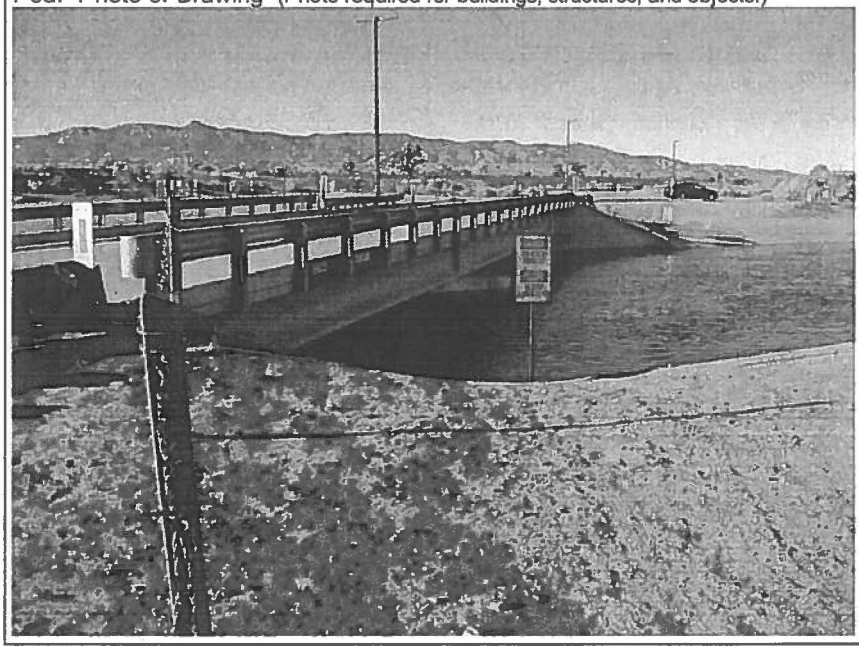
***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Duncan Road is a narrow, unpaved, minor collector road in rural San Bernardino County west of the City of Hesperia. The Duncan Road Bridge crosses the California Aqueduct (East Branch), and is approximately 134 feet long, 30 feet wide. It is a two span reinforced concrete slab bridge. The bridge has vertical metal beam railings and recessed concrete panels on spans of the vertical side walls. A single, skewed rectangular reinforced concrete pier supports the bridge above the aqueduct.

***P3b. Resource Attributes:** HP19. Bridge

***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: Duncan Road Bridge, facing west

***P6. Date Constructed/Age and Sources: 1971** ■Historic ☐Prehistoric ☐Both

***P7. Owner and Address:**
Department of Water Resources
3500 Industrial Blvd.
West Sacramento, CA 95691

***P8. Recorded by:**
Katherine Anderson | ESA
2600 Capitol Ave, Ste 200
Sacramento CA 95816

***P9. Date Recorded:** 11/1/11

***P10. Survey Type:** intensive

***P11. Report Citation:** ESA, 2012. Historic Resources Evaluation Report for the Seismic Retrofit of Six Bridges Over the California Aqueduct, Near Hesperia, San Bernardino County, aAnd Kern County, California. Prepared for DWR. April 2012.

***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

Primary # 36-021351
HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

*NRHP Status Code 3D

*Resource Name or # 36-021351 (Duncan Road Bridge)

B1. Historic Name: Duncan Road Bridge
B2. Common Name: Duncan Road Bridge
B3. Original Use: bridge
B4. Present Use: bridge
*B5. Architectural Style: concrete slab
*B6. Construction History:
1971 Original Construction

*B7. Moved? ■No ☐Yes ☐Unknown Date: Original Location:
*B8. Related Features:
California Aqueduct

B9a. Architect: DWR; Moffat & Nichol Engineers of Long Beach
b. Builder: Granite Construction Company
*B10. Significance: Theme: water conveyance
Area: Southern California
Period of Significance: 1960-1974
Property Type: bridge
Applicable Criteria: n/a

The Duncan Road Bridge was constructed in 1971 during the construction of the East Branch of the California Aqueduct. DWR, as well as Moffat & Nichol Engineers from Long Beach, California designed the bridge. Granite Construction Company constructed it. It does not appear to have been altered since its original construction.

Duncan Road Bridge is a contributor to the California Aqueduct, and is peripherally associated with the history of major water systems development in California. The October 2011 Caltrans Historic Highway Bridge Inventory lists the bridge as a Category 5 resource, that is, as not eligible for the NRHP. However, the bridge has been re-evaluated and determined to be a contributing element to the California Aqueduct, which has been recommended eligible for listing in the NRHP.

Integrity. Duncan Road Bridge appears unaltered from its original design. Little to no additions or modifications have been made to the bridge. Duncan Road Bridge maintains integrity of location, design, materials, workmanship, association, and feeling. Since the original construction of the bridges, some single family residential construction has occurred in the vicinity of the Duncan Road, resulting in change to the rural desert setting of the bridge. These alterations of setting have not significantly detracted from the integrity of the bridge. Duncan Road Bridge therefore retains sufficient physical integrity to convey any potential historical significance.

B11. Additional Resource Attributes: HP19. Bridge

*B12. References:

B13. Remarks:

*B14. Evaluator: Katherine Anderson | ESA
2600 Capitol Ave, Ste 200
Sacramento CA 95816
*Date of Evaluation: 11/22/11

(This space reserved for official comments.)

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

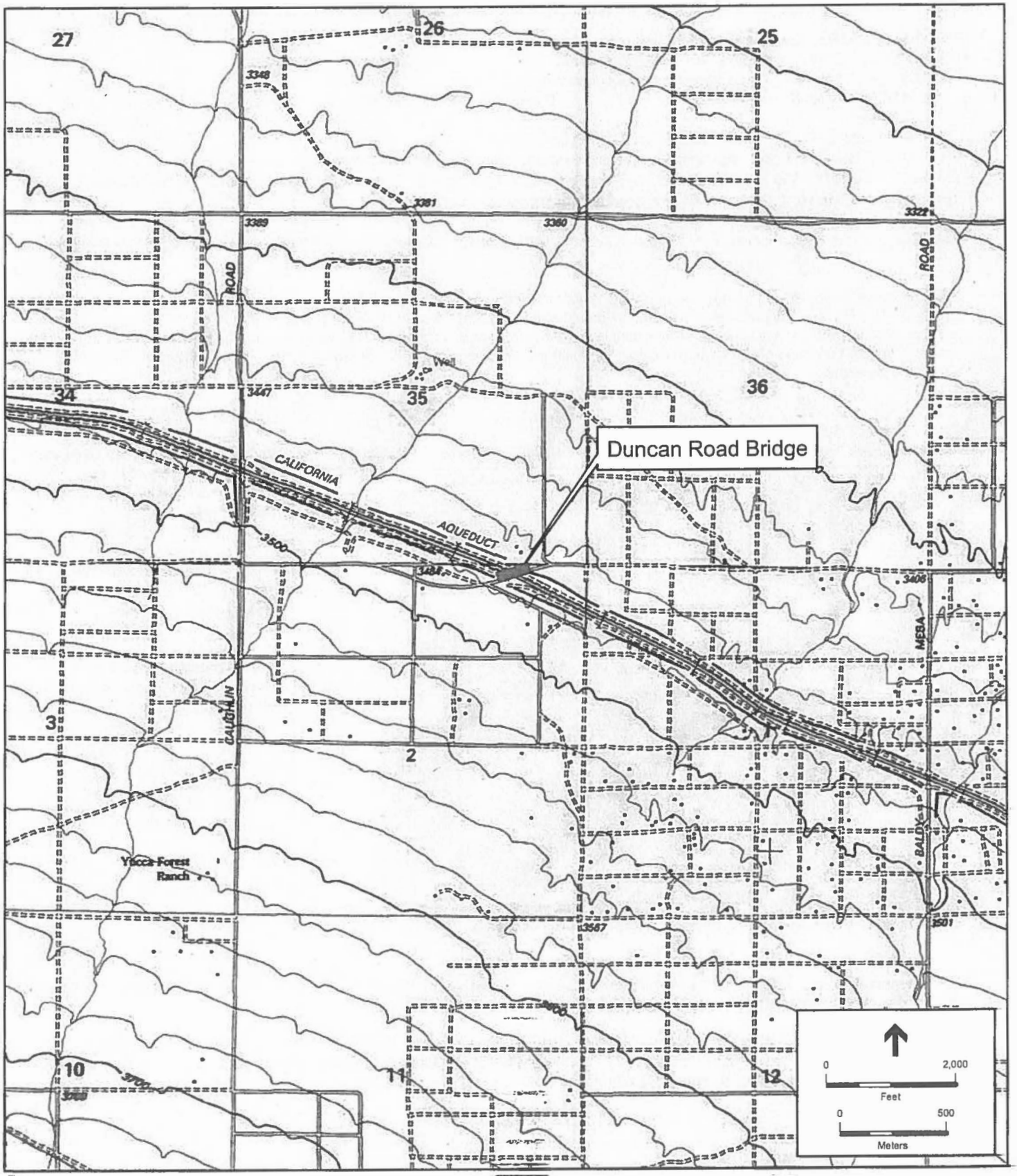
LOCATION MAP

Primary # 36-021351
HRI #
Trinomial

* Resource Name or Number: 36-021351 (Duncan Road Bridge)

*Map name: Baldy Mesa (1956 PR 1988)

*Scale: 1:24000



* Required Information

1067405 update 8/13

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

Primary # 36-021351
HRI #
Trinomial CA-SBR-15913 H
NRHP Status Code

Other Listings
Review Code | Reviewer | Date

*Resource Name or #: 36-021351 (Maple Avenue Bridge)

P1. Other Identifier: Maple Avenue Bridge

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

***a. County:** San Bernardino

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

***b. USGS 7.5' Quad:** Hesperia **Date:** 1956 **T 4N ; R 5W ;** SE ¼ of SE ¼ of Sec 25; S.B.B.M.

c. Address: City: Zip:

d. UTM: Zone: 11 ; 468167 mE/ 3806556 mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: 3475 ft

From exit 143 of I-15 head east 1.9 miles on Main St to Maple Drive. Turn right and head south 1.9 miles to the bridge

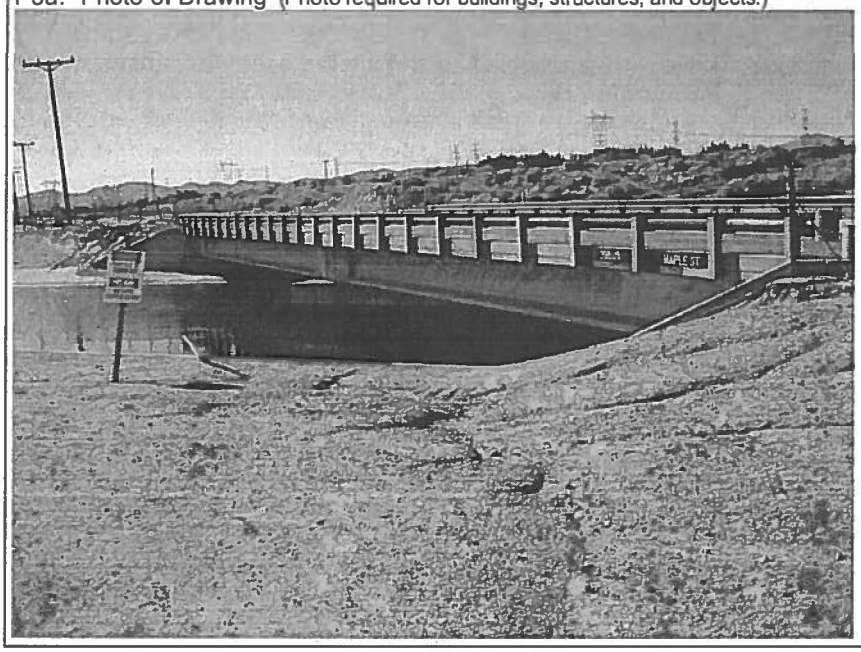
***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Maple Avenue is a narrow, two-lane, local minor collector road located in the City of Hesperia. The Maple Avenue Bridge crosses the California Aqueduct (East Branch), and is approximately 155 feet long and 30 feet wide. It is a two span reinforced concrete slab bridge. The bridge has vertical metal beam railings and recessed concrete panels on spans of the vertical side walls. A single, skewed rectangular reinforced concrete pier supports the bridge above the aqueduct.

***P3b. Resource Attributes:** HP19. Bridge

***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: Maple Avenue Bridge, facing east

***P6. Date Constructed/Age and Sources: 1971** ■Historic ☐Prehistoric ☐Both

***P7. Owner and Address:**
Department of Water Resources
3500 Industrial Blvd.
West Sacramento, CA 95691

***P8. Recorded by:**
Katherine Anderson | ESA
2600 Capitol Ave, Ste 200
Sacramento CA 95816

***P9. Date Recorded:** 11/1/11

***P10. Survey Type:** intensive

***P11. Report Citation:** ESA, 2012. Historic Resources Evaluation Report for the Seismic Retrofit tf Six Bridges Over the California Aqueduct, Near Hesperia, San Bernardino County, and Kern County, California. Prepared for DWR. April 2012.

***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

Primary # 36-021351
HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

*NRHP Status Code 3D

*Resource Name or # 36-021351 (Maple Avenue Bridge)

B1. Historic Name: Maple Avenue Bridge
B2. Common Name: Maple Avenue Bridge
B3. Original Use: bridge
B4. Present Use: bridge
*B5. **Architectural Style:** concrete slab
*B6. **Construction History:**
1971 Original Construction

*B7. **Moved?** ■No ☐Yes ☐Unknown **Date:** **Original Location:**
*B8. **Related Features:**
California Aqueduct

B9a. Architect: DWR; Moffat & Nichol Engineers of Long Beach
b. Builder: Granite Construction Company
*B10. **Significance: Theme:** water conveyance
Area: Southern California
Period of Significance: 1960-1974
Property Type: bridge
Applicable Criteria: n/a

The Maple Avenue Bridge was constructed in 1971 during the construction of the East Branch of the California Aqueduct. DWR, as well as Moffat & Nichol Engineers from Long Beach, California designed the bridge. Granite Construction Company constructed it. It does not appear to have been altered since its original construction.

Maple Avenue Bridge is a contributor to the California Aqueduct, and is peripherally associated with the history of major water systems development in California. The October 2011 Caltrans Historic Highway Bridge Inventory lists the bridge as a Category 5 resource, that is, as not eligible for the NRHP. However, the bridge has been re-evaluated and determined to be a contributing element of the California Aqueduct, which has been recommended eligible for listing in the NRHP.

Integrity. Maple Avenue Bridge appears unaltered from its original design. Little to no additions or modifications have been made to the bridge. Maple Avenue Bridge maintains integrity of location, design, materials, workmanship, association, and feeling. Since the original construction of the bridges, some single family residential construction has occurred in the vicinity of the Maple Avenue, resulting in change to the rural desert setting of the bridge. These alterations of setting have not significantly detracted from the integrity of the bridge. Maple Avenue Bridge therefore retains sufficient physical integrity to convey any potential historical significance.

B11. Additional Resource Attributes: HP19. Bridge

*B12. **References:**

B13. Remarks:

*B14. **Evaluator:** Katherine Anderson | ESA
2600 Capitol Ave, Ste 200
Sacramento CA 95816
*Date of Evaluation: 11/22/11

(This space reserved for official comments.)

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

LOCATION MAP

Primary # 36-021351
HRI #
Trinomial

* Resource Name or Number: 36-021351 (Maple Road Bridge)

*Map name: Hesperia (1956 PR 1988)

*Scale: 1:24000

* Required Information

1067405 Update 8/13

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

Primary # 36-021351
HRI #
Trinomial CA-SBR-15913 H
NRHP Status Code

Other Listings
Review Code | Reviewer | Date

*Resource Name or #: 36-021351 (Mesquite Street Bridge)

P1. Other Identifier: Mesquite Street Bridge

*P2. Location: ☐ Not for Publication ■ Unrestricted *a. County: San Bernardino

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

*b. USGS 7.5' Quad: Hesperia Date: 1956 T 4N ; R 4W ; SW¼ of SW¼ of Sec 30 and NW¼ of NW¼ of Sec 31; S.B.B.M.

c. Address: City: Zip:

d. UTM: Zone: 11 ; 468364 mE/ 3806301 mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: 3477 ft

From exit 143 of I-15 head east 1.9 miles on Main St to Maple Drive. Turn right and head south 2 miles to Mesquite Street. Turn left and head west 700 ft to the bridge.

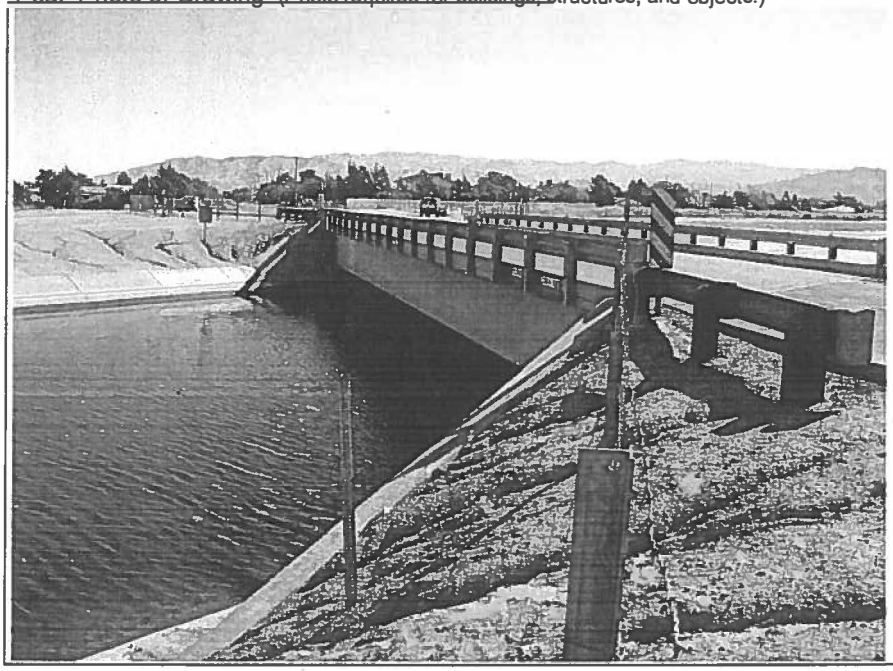
*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Mesquite Street is a narrow, two-lane, local minor collector road located in the City of Hesperia.The Mesquite Street Bridge crosses the California Aqueduct (East Branch), and is approximately 121 feet long and 30 feet wide. It is a single span reinforced concrete slab bridge. The bridge has vertical metal beam railings and a recessed concrete panel on the vertical side walls.

*P3b. Resource Attributes: HP19. Bridge

*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: Mesquite Street Bridge, facing west

*P6. Date Constructed/Age and Sources: 1971 ■Historic ☐Prehistoric ☐Both

*P7. Owner and Address:
Department of Water Resources
3500 Industrial Blvd.
West Sacramento, CA 95691

*P8. Recorded by:
Katherine Anderson | ESA
2600 Capitol Ave, Ste 200
Sacramento CA 95816

*P9. Date Recorded: 11/1/11

*P10. Survey Type: intensive

*P11. Report Citation: ESA, 2012. Historic Resources Evaluation Report for the Seismic Retrofit of Six Bridges Over the California Aqueduct, Near Hesperia, San Bernardino County, and Kern County, California. Prepared for DWR. April 2012.

*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

Primary # 36-021351
HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

*NRHP Status Code 3D

*Resource Name or # 36-021351 (Mesquite Street Bridge)

B1. Historic Name: Mesquite Street Bridge
B2. Common Name: Mesquite Street Bridge
B3. Original Use: bridge
B4. Present Use: bridge
*B5. **Architectural Style:** concrete slab
*B6. **Construction History:**
1971 Original Construction

*B7. **Moved?** ■No ☐Yes ☐Unknown **Date:** **Original Location:**
*B8. **Related Features:**
California Aquedcut

B9a. Architect: DWR; Moffat & Nichol Engineers of Long Beach
b. Builder: Granite Construction Company
*B10. **Significance: Theme:** water conveyance **Area:** Southern California
Period of Significance: 1960-1974 **Property Type:** bridge **Applicable Criteria:** n/a

The Mesquite Street Bridge was constructed in 1971 during the construction of the East Branch of the California Aqueduct. DWR, as well as Moffat & Nichol Engineers from Long Beach, California designed the bridge. Granite Construction Company constructed it. It does not appear to have been altered since its original construction.

Mesquite Street Bridge is a contributor to the California Aqueduct, and is peripherally associated with the history of major water systems development in California. The October 2011 Caltrans Historic Highway Bridge Inventory lists the bridge as a Category 5 resource, that is, as not eligible for the NRHP. However, the bridge has been re-evaluated and determined to be a contributing element of the California Aqueduct, which has been recommended eligible for listing in the NRHP.

Integrity. Mesquite Street Bridge appears unaltered from its original design. Little to no additions or modifications have been made to the bridge. Mesquite Street Bridge maintains integrity of location, design, materials, workmanship, association, and feeling. Since the original construction of the bridges, some single family residential construction has occurred in the vicinity of the Mesquite Street, resulting in change to the rural desert setting of the bridge. These alterations of setting have not significantly detracted from the integrity of the bridge. Mesquite Street Bridge therefore retains sufficient physical integrity to convey any potential historical significance.

B11. Additional Resource Attributes: HP19. Bridge

*B12. **References:**

B13. Remarks:

*B14. **Evaluator:** Katherine Anderson | ESA
2600 Capitol Ave, Ste 200
Sacramento CA 95816
*Date of Evaluation: 11/22/11

(This space reserved for official comments.)

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

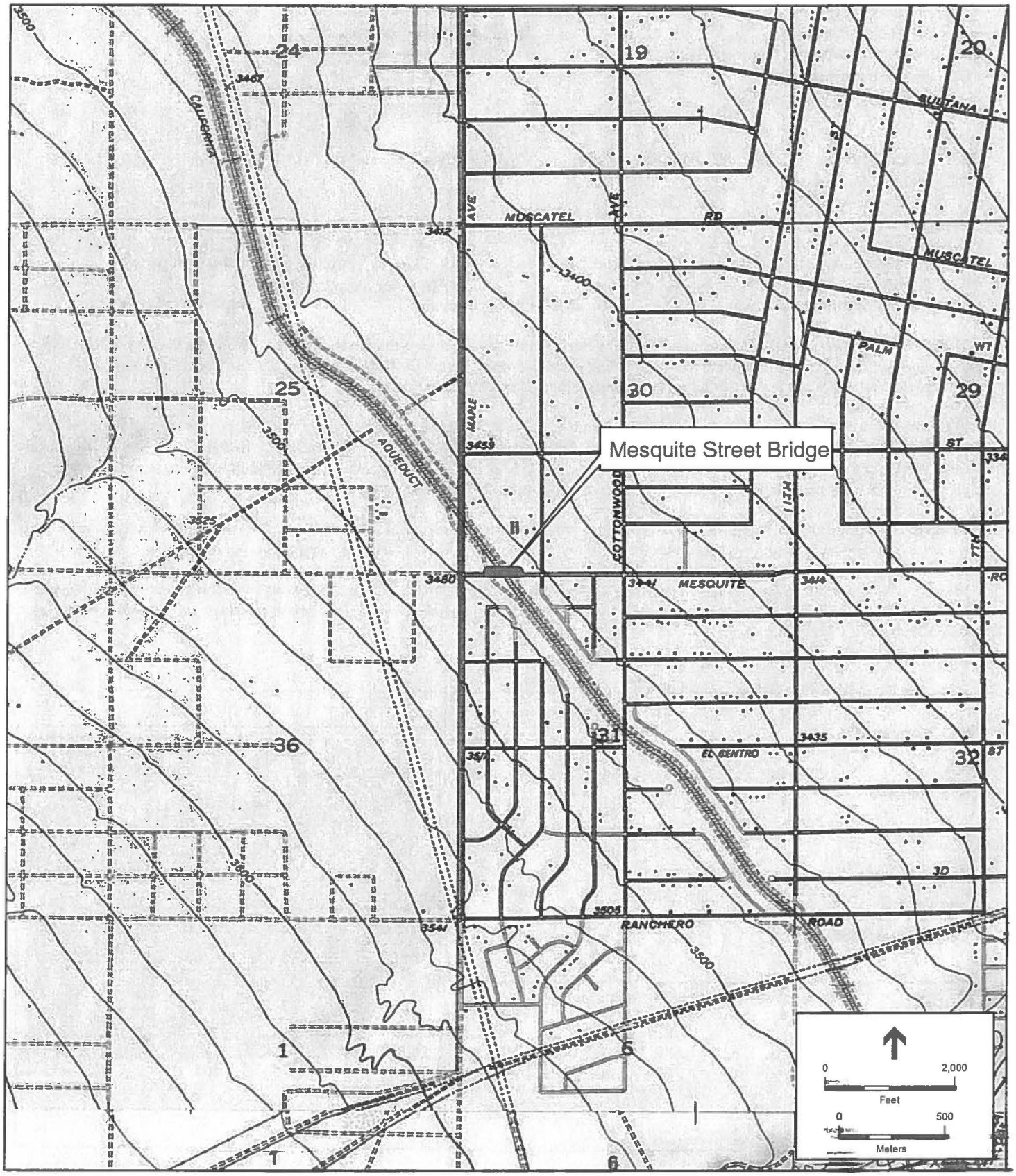
LOCATION MAP

Primary # 36-021351
HRI #
Trinomial

* Resource Name or Number: 36-021351 (Mesquite Street Bridge)

*Map name: Baldy Mesa (1956 PR 1988)

*Scale: 1:24000



* Required Information

1067405 Update 8/13

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

Primary # 36-021351
HRI #
Trinomial CA-SBR-15913 H
NRHP Status Code

Other Listings
Review Code | Reviewer | Date

 *Resource Name or #: 36-021351 Ranchero Road Bridge

P1. Other Identifier: Ranchero Road Bridge

***P2. Location:** ☐ Not for Publication ■ Unrestricted **and** (P2b and P2c or P2d. Attach a Location Map as necessary.)

***a. County:** San Bernardino

***b. USGS 7.5' Quad:** Hesperia **Date:** 1956 **T 4N; R 4W**; SE ¼ of SE¼ of Sec 31& SW¼ of SW ¼ of Sec 32; **T 3N; R 4W**; NW ¼ of NW¼ of Sec 5 & NE¼ of NE¼ of Sec 6; S.B. **B.M.**

c. Address: City: Zip:

d. UTM: Zone: 11 ; 469753 mE/ 3804701 mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: 3477

From exit 141 of I-15 head southeast on Joshua Street to Mariposa Street and turn right and head southwest 2 miles to Ranchero Road. Turn left and head east 5 miles to bridge.

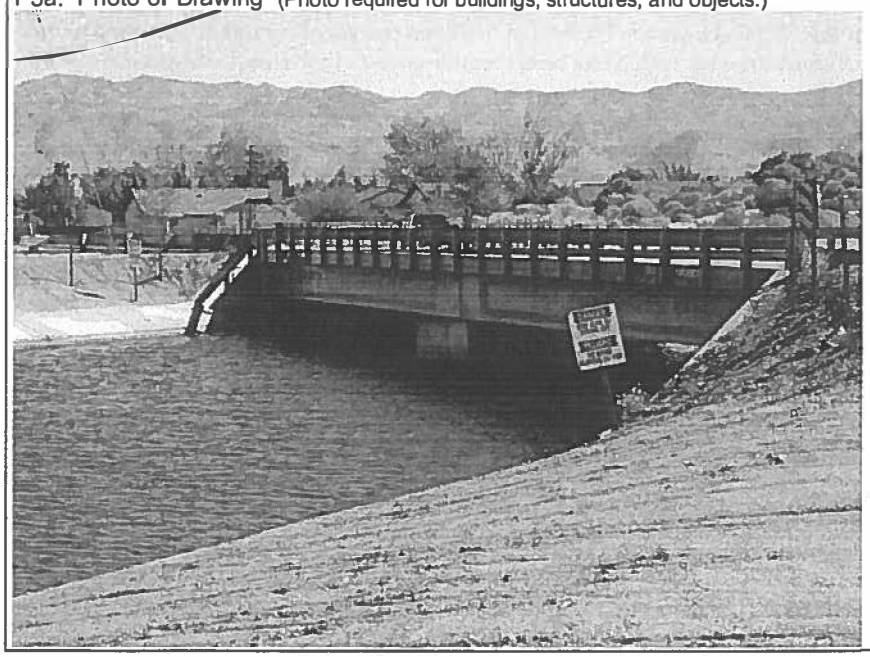
***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Ranchero Road is a narrow, two-lane, local minor collector road located in the City of Hesperia. The Ranchero Road Bridge crosses the California Aqueduct (East Branch), and is approximately 138 feet long and 30 feet wide. It is a two-span reinforced concrete slab bridge. The bridge has vertical metal beam railings and recessed concrete panels on spans of the vertical side walls. A single, skewed rectangular reinforced concrete pier supports the bridge above the aqueduct.

***P3b. Resource Attributes:** HP19. Bridge

***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: Ranchero Road Bridge, facing west

***P6. Date Constructed/Age and Sources: 1971** ■Historic ☐Prehistoric ☐Both

***P7. Owner and Address:**
Department of Water Resources
3500 Industrial Blvd.
West Sacramento, CA 95691

***P8. Recorded by:**
Katherine Anderson | ESA
2600 Capitol Ave, Ste 200
Sacramento CA 95816

***P9. Date Recorded:** 11/1/11

***P10. Survey Type:** intensive

***P11. Report Citation:** ESA, 2012. Historic Resources Evaluation Report for the Seismic Retrofit of Six Bridges Over the California Aqueduct, Near Hesperia, San Bernardino County, and Kern County, California. Prepared for DWR. April 2012.

***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

Primary # 36-021351
HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

*NRHP Status Code 3D

*Resource Name or # 36-021351 (Ranchero Road Bridge)

B1. Historic Name: Ranchero Road Bridge
B2. Common Name: Ranchero Road Bridge
B3. Original Use: bridge
B4. Present Use: bridge
*B5. **Architectural Style:** concrete slab
*B6. **Construction History:**
1971 Original Construction

*B7. **Moved?** ■No ☐Yes ☐Unknown **Date:** **Original Location:**
*B8. **Related Features:**
California Aqueduct (East Branch)

B9a. Architect: DWR; Moffat & Nichol Engineers of Long Beach
b. Builder: Granite Construction Company
*B10. **Significance: Theme:** water conveyance **Area:** Southern California
Period of Significance: 1960-1974 **Property Type:** bridge **Applicable Criteria:** n/a

The Ranchero Road Bridge was constructed in 1971 during the construction of the East Branch of the California Aqueduct. DWR, as well as Moffat & Nichol Engineers from Long Beach, California designed the bridge. Granite Construction Company constructed it. It does not appear to have been altered since its original construction.

Ranchero Road Bridge is a contributor to the California Aqueduct (East Branch), and is peripherally associated with the history of major water systems development in California. The October 2011 Caltrans Historic Highway Bridge Inventory lists the bridge as a Category 5 resource, that is, as not eligible for the NRHP. However, the bridge has been re-evaluated and determined to be a contributing element of the California Aqueduct (East Branch), which has been recommended eligible for listing in the NRHP.

Integrity. Ranchero Road Bridge appears unaltered from its original design. Little to no additions or modifications have been made to the bridge. Ranchero Road Bridge maintains integrity of location, design, materials, workmanship, association, and feeling. Since the original construction of the bridges, some single family residential construction has occurred in the vicinity of the Ranchero Road, resulting in change to the rural desert setting of the bridge. These alterations of setting have not significantly detracted from the integrity of the bridge. Ranchero Road Bridge therefore retains sufficient physical integrity to convey any potential historical significance.

B11. Additional Resource Attributes: HP19. Bridge

*B12. **References:**

B13. Remarks:

*B14. **Evaluator:** Katherine Anderson | ESA
2600 Capitol Ave, Ste 200
Sacramento CA 95816
*Date of Evaluation: 11/22/11

(This space reserved for official comments.)

*Required Information

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

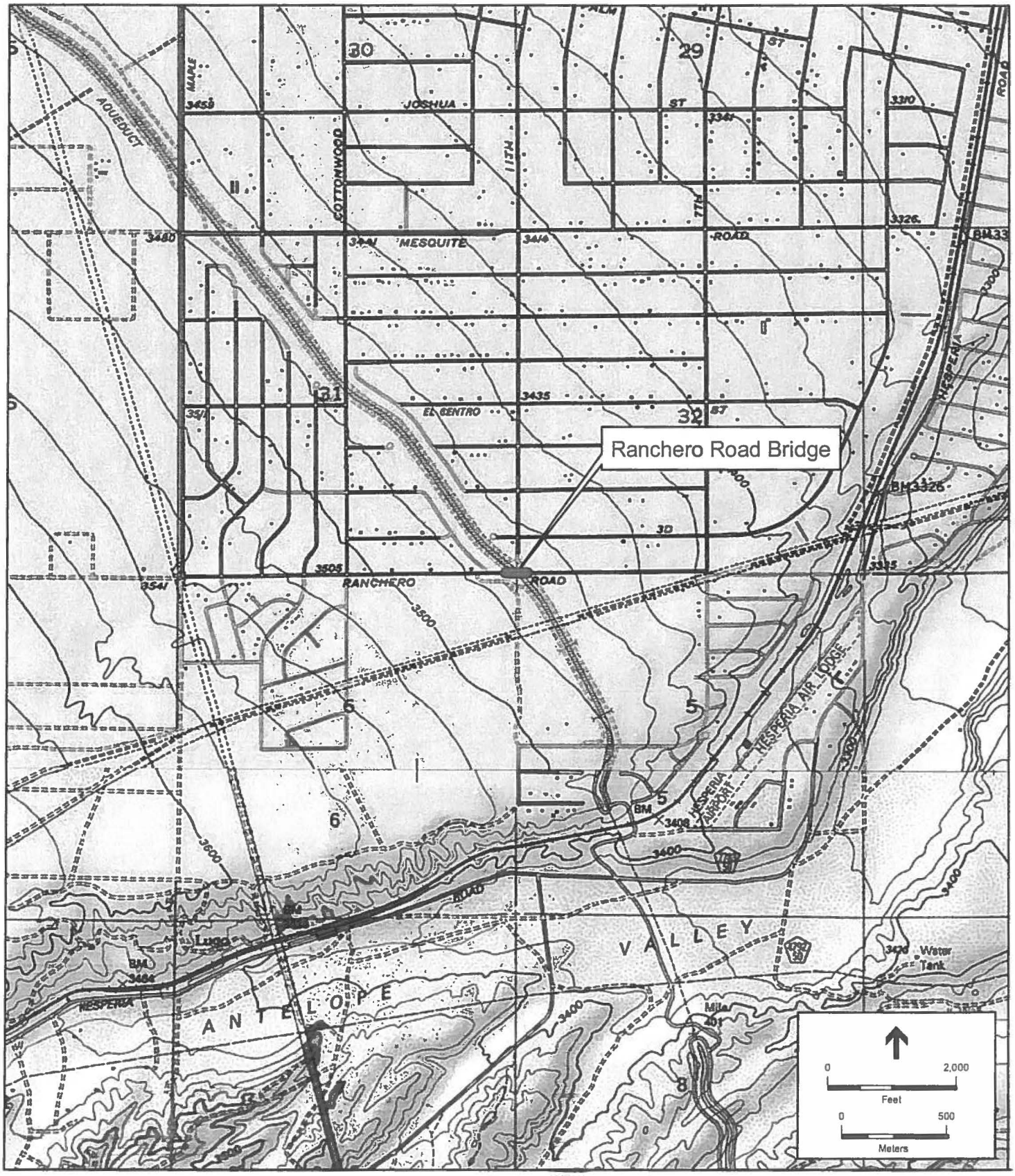
LOCATION MAP

Primary # 36-021351
HRI #
Trinomial

* Resource Name or Number: 36-021351 (Ranchero Road Bridge)

*Map name: Hesperia (1956 PR 1988)

*Scale: 1:24000



* Required Information

1067405 update 8/13

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

Primary # 36-021351
HRI #
Trinomial CA-SBR-15913H CH
NRHP Status Code 3
Other Listings
Review Code Reviewer Date

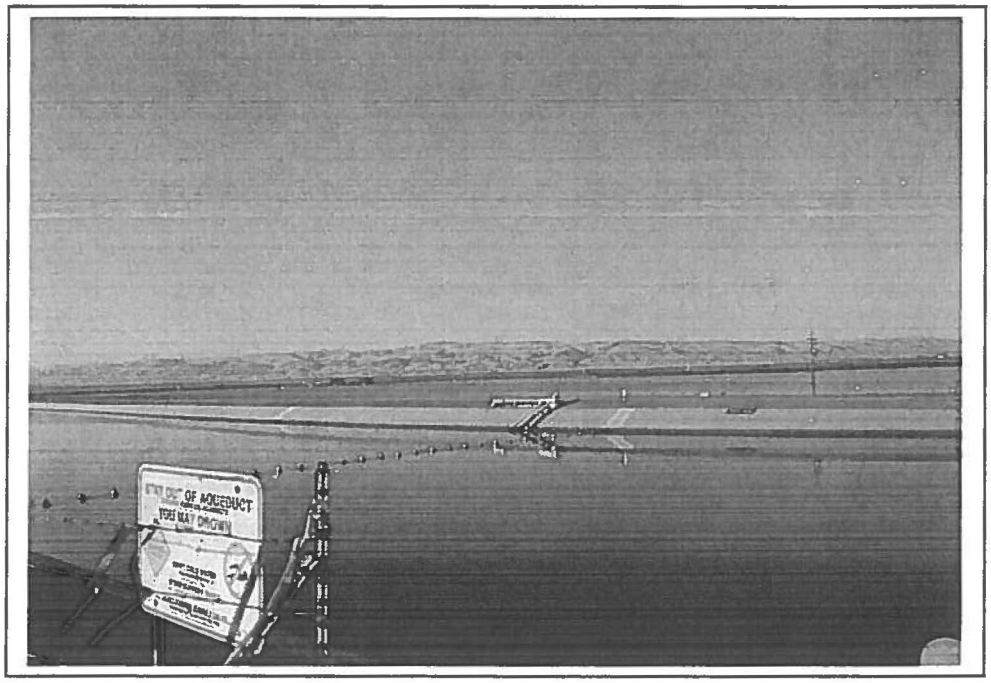
***Resource Name or #** (Assigned by recorder) California Aqueduct

P1. Other Identifier:
***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** See Continuation Sheet
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** See Continuation Sheet **Date** See Continuation Sheet **T** __; **R** __; ___ ¼ **of Sec** __; ____ **B.M.**
c. Address CR BARDY MESA & HESPERIA City ____ Zip ____
d. UTM: (give more than one for large and/or linear resources) Zone ____; ____mE/ ____mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

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

The main line of the California Aqueduct is divided into five divisions: North San Joaquin, San Luis, South San Joaquin, Tehachapi, and the East Branch (previously the Mojave and Santa Ana Divisions) that are oriented in a general north to south direction. The aqueduct also features two main branches: the Coastal, which generally extends southwest from the main line at Milepost 184.63, 16 miles south of Kettleman City and terminates in San Luis Obispo and Santa Barbara Counties, and West which extends southwest from the Tehachapi Afterbay in Kern County to Castaic Lake, north of Santa Clarita in Los Angeles County. The entire main line of the aqueduct is 444 miles long. It begins in the Sacramento-San Joaquin Delta in the North San Joaquin Division, and terminates at the southern end of the state at Lake Perris, Riverside County, in the East Branch Division. Each division contains such features as bridges, siphons, culverts, and canal drains. The combination of these features and the canal itself forms a unified water conveyance system. (See Continuation Sheet)

***P3b. Resource Attributes:** (List attributes and codes) HP20. Canal/Aqueduct
***P4. Resources Present:** ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (Isolates, etc.)



P5b. Description of Photo: (View, date, accession #) California Aqueduct, MP 117.5, October 21, 2011

***P6. Date Constructed/Age and Sources:**
☒ Historic ☐ Prehistoric ☐ Both
1960-1974 / Dept. of Water Resources

***P7. Owner and Address:**
California Department of Water Resources
1416 9th Street
Sacramento, CA 95814

***P8. Recorded by:** (Name, affiliation, address)
Patricia Ambacher
AECOM
2020 L Street, Suite 400
Sacramento, CA 95811

***P9. Date Recorded:** October 21, 2011

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

***P11. Report Citation:** *Historical Resources Evaluation Report: 17 Bridges Seismic Retrofit Project,* AECOM 2012
***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) ____

B1. Historic Name: California Aqueduct
B2. Common Name: California Aqueduct
B3. Original Use: Aqueduct B4. Present Use: Aqueduct
***B5. Architectural Style:** Utilitarian
***B6. Construction History:** (Construction date, alteration, and date of alterations) 1960-1974
***B7. Moved?** ☒ **No** ☐ **Yes** ☐ **Unknown** **Date:** _____ **Original Location:** _____
***B8. Related Features:** Bridges that cross the aqueduct, control facilities, canals, siphons, drains

B9. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme** Transportation and Water Conveyance **Area** California
Period of Significance 1960-1974 **Property Type** Aqueduct **Applicable Criteria** A,C
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

By the mid-1950s, the California Department of Water Resources (DWR) identified the primary water issue in California as the one of maldistribution. According to the DWR, too much water was wasted in northern California, and too little rain fell in southern California (DWR 1957:10–11). Plans to rectify this maldistrubiton began in earnest after World War II during a period when California experienced a population surge and dramatic development throughout much of the state. Local governments and water officials quickly realized that their water supplies could not meet the growing demand of their communities. Farmers were also draining regional groundwater basins to irrigate their crops (DWR 2011). To rectify this issue, state engineer, Arthur D. Edmonston, published a proposal that suggested building a multipurpose dam, reservoir, and power plant on the Feather River, northeast of the small town of Oroville in the northern Sacramento Valley; an aqueduct to transport water from the Sacramento-San Joaquin Delta to Santa Clara and Alameda Counties; and a second aqueduct to serve the San Joaquin Valley and southern California (DWR 2011). The storage of water would reduce flooding hazards, and the stored water could be released into the Sacramento River at planned intervals and then deposited into the Sacramento–San Joaquin Delta. Here it would be able to check the flow of salt water from the San Francisco Bay, which during droughts had seeped as far inland as Sacramento. The project would be paid for in part by the electricity generated at the dam's power plant in Oroville. (See Continuation Sheet)

B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:** See Continuation Sheet

B13. Remarks:

***B14. Evaluator:** Mark Bowen

***Date of Evaluation:** April 12, 2012

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

See Location Map

County (cont)

Counties Listed From North to South

Aqueduct's Main Line	*Coastal Branch*	*West Branch*
Alameda County	Kern County	Los Angeles County
San Joaquin County	San Luis Obispo County	
Stanislaus County	Santa Barbara County	
Merced County		
Fresno County		
Kings County		
Kern County		
Los Angeles County		
San Bernardino County		
Riverside County		

USGS 7.5' Quad (cont)

Quads Listed from North to South

Aqueduct's Main Line

Clifton Court Forebay 1978
Midway 1953 (R 1980)
Tracy 1954 (R 1981)
Vernalis 1991
Solyo 1991
Westley 1991
Patterson 1953 (R 1971)
Crows Landing 1952 (R 1980)
Newman 1952 (R 1971)
Howard Ranch 1953 (R 1971)
San Luis Dam 1969 (R 1978)
Volta 1960 (R 1971)
Ortigalita Peak NW 1969 (R 1984)
Charleston School 1956 (R 1971)
Laguna Seca Ranch 1956 (R 1971)
Hammonds Ranch 1956 (R 1984)
Chounet Ranch 1956 (R 1971)
Chaney Ranch 1955 (R 1971)
Monocline Ridge 1955 (R 1971)
Levis 1956 (R 1984)
Cantua Creek 1956 (R 1984)
West Camp 1954 (R 1973)
Tres Picos Farms 1956 (R 1971)
Domengine Ranch 1956 (R 1979)
Harris Ranch 1956 (R 1971)
Calflax 1956 (R 1971)
Huron 1956 (R 1971)
La Cima 1963 (R 1971)
Kettleman City 1963 (R 1981)
Los Viejos 1954 (R 1981)
Avenal Gap 1954 (R 1973)
Antelope Plain 1954 (R 1982)
Los Hills NW 1954 (R 1973)
Los Hills 1953 (R 1973)
Belridge 1953 (R 1973)
Lokern 1954 (R 1973)
West Elk Hills 1954 (R 1973)
East Elk Hills 1954 (R 1973)
Tupman 1954 (R 1968 and 1973)
Mouth of Kern 1950 (R 1968 and 1973)
Maricopa 1950 (R 1973)
Pentland 1953 (R 1968 and 1973)
Conner SW 1955 (R 1968 and 1973)
Coal Oil Canyon 1955 (R 1968 and 1973)
Mettler 1955 (R 1968 and 1973)
Grapevine 1991
Pastoria Creek 1991
La Liebre Ranch 1965 (R 1974)
Neenach School 1965 (R 1974)
Fairmont Butte 1965 (1974)
Lake Hughes 1957 (R 1974)
Del Sur 1958 (R 1974)
Lancaster West 1958 (R 1974)
Ritter Ridge 1958 (R 1974)
Palm Dale 1958 (R 1974)
Littlerock 1957 (R 1974)
Juniper Hills 1959 (R 1988)
Valyermo 1958 (R 1988)
Mescal Creek 1956 (R 1988)
Phelan 1956 (R 1988)
Baldy Mesa 1956 (R 1988)
Hesperia 1956 (R 1980)
Silverwood Lake 1956 (R 1988)
San Bernardino North 1967 (R 1988)
San Bernardino South 1967 (R 1980)
Riverside East 1967 (R 1980)
Sunnymead 1967 (R 1980)
Perris 1967 (R 1979)

Coastal Branch

Avenal Gap 1954 (R 1973)
Emigrant Hill 1953 (R 1973)
Sawtooth Ridge 1961 (R 1994)
Orchard Peak 1961 (R 1993)
Cholame 1961 (R 1993)
Camatta Canyon 1961 (R 1976)
Shedd Canyon 1961 (R 1993)
Wilson Corner 1966 (R 1976)
Santa Margarita 1965 (R 1993)
San Luis Obispo 1965 (R 1994)
Lopez Mountain 1965 (R 1993)
Arroyo Grande NE 1965 (R 1993)
Oceano 1965 (R 1979)
Nipomo 1965

West Branch

La Liebre Ranch 1965 (R 1974)
Lebec 1991
Black Mountain 1991
Liebre Mountain 1958 (R 1988)
Whitaker Peak 1958 (R 1988)
Warm Springs Mountain 1958 (R 1988)
Newhall 1952 (R 1988)

Description (cont)

The California Aqueduct is trapezoidal and lined with un-reinforced concrete. The depth, bottom width, and surface width of the canal vary slightly in each division. In the North San Joaquin Division, the aqueduct is approximately 33 feet deep and 40 feet wide at the bottom. This section of the canal is approximately 63 miles long with side slopes of 1½:1. In the San Luis Unit, the canal's depth and bottom width ranges between approximately 25 and 37 feet deep and 50 to 110 feet wide. The 103-mile-long canal has side slopes of 2:1. In the South San Joaquin Division, the aqueduct is 121 miles long and its depth ranges between approximately 21 and 26 feet. Its bottom width varies between 24 and 32 feet with a 2:1 and 2½:1 slope. The aqueduct is 24.5 feet deep with a bottom width of 10 feet in the Tehachapi Division. The side slopes are 2:1. In the East Branch, the aqueduct has an average depth of 20 feet, with a bottom width of between 12 and 16 feet. The East Branch's 98 mile-long segment has side slopes that vary between 2:1 and 3:1. The average surface width for the California Aqueduct is between 90 and 110 feet. The widest bottom width is 50 feet and the deepest section is approximately 33 feet (DWR 2010).

Significance (cont)

Edmonston also proposed constructing a giant aqueduct fed by massive, custom-designed pumps that would force the water from the Delta southward, where it could be used to water the dry southern valley and the cities of southern California after pumps moved it over the Tehachapi Mountains at the southern end of the San Joaquin Valley (DWR 1974:7). These planning efforts eventually came to fruition as the State Water Project (SWP). Financing for the SWP was approved by the voters of California in 1960 as a result of the Burns-Porter Act (DWR 2010). When brought to the voters as a referendum, the public which was divided along northern and southern California ideologies (both having concerns regarding loss of water), approved the bond measure by a narrow margin of 173,944 votes.

A key component of the SWP is the California Aqueduct, the primary delivery system of the SWP. It is the longest water conveyance feature of the SWP and its primary purpose is to transport water from the Delta to the San Joaquin Valley and Southern California. Branches of the aqueduct move water to the San Francisco Bay Area and Santa Barbara and San Luis Obispo counties. Construction on the California Aqueduct began in 1960 and the main line was completed in 1973 (Autobee 2011:8; Golze 1965:8).

Early in the planning and design phase for the California Aqueduct, the engineers decided that a lined canal would be more efficient than a compacted earthen lined canal. An earthen lined canal, while less expensive to build, would create a loss of water from seepage, higher head loss because of friction, and increased maintenance. The advantages of a lined canal included less seepage and maintenance, lower head loss, and greater reliability overall. Unreinforced concrete was selected for the lining because it would not be under stress that would necessitate reinforced concrete. The lining was intended to be a minimum of two inches thick, 3.5 inches for side slopes between 15 and 30 feet, and for longer slopes the thickness increased to four inches. A horizontal lip of 12 inches was placed at the top of the lining to help prevent seepage behind the lining (DWR 1974:8).

Engineers designed roads on each side of the California Aqueduct in sections where the area exceeded 36 feet between the inside edge of the roadway to the bottom of the far canal side. The roads were designed to drain away from the canal and be between two and four feet above the canal's lining. The primary road was planned for future use as an operating road for patrolling, canal maintenance, and through-traveling. These primary operating roads received better paving. At points subject to flooding, bridges were constructed on the primary operating roads if an alternative public bridge was not usable. On average, engineers constructed operational bridges or other vehicular crossings of the canal at four mile intervals (DWR 1974:11).

The San Luis Unit, which includes the San Luis Reservoir, located about 15 miles west of Los Banos, adjacent to State Route 152, was an outgrowth of the Bureau of Reclamation's 1949 Central Valley plan that called for additional storage capacity to alleviate record groundwater drawdowns (Autobee 2011:7; DWR 1974:49, 52). The San Luis Unit portion of the California Aqueduct is unique in that it is a joint project between the federal (Reclamation) and the state (DWR) governments, with the federal government responsible for 45% of the funds and California responsible for 55% (San Luis Unit Central Valley Project 1963:1, 4). The O'Neill Pumping Plant draws water from the San Luis Reservoir and pumps it south. The San Luis Unit extends from the O'Neil Forebay (created with the construction of the dam) nearly 100 miles to Kettleman City. DWR was responsible for constructing the segment from the Delta inlet to the San Luis Reservoir in Merced County. BOR constructed the next 102 miles of the aqueduct, which is identified as the San Luis Canal. The extended conveyance structure is again identified as the California Aqueduct after it passes the Westlands Water District to the south in Fresno and Kings counties (Garone 2011:209).

Today, the SWP provides drinking water for 25 million people; irrigates approximately 750,000 acres of crops; and features 34 storage facilities, 20 pumping plants, four pumping-generating plants, five hydroelectric power plants, and 700 miles of open canals and pipelines.

The California Aqueduct appears to meet the criteria for listing in the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR) at the state level of significance under NRHP/CRHR Criterion A/1 representing a comprehensively planned and publicly sanctioned water conveyance public works project to facilitate development throughout the state. It also appears to meet the criteria under NRHP/CRHR C/3 for its complex design necessary to redistribute water throughout the state of California on such a massive level. The period of significance for the resource is 1960-1974, the years of construction.

The California Aqueduct was the largest and most significant of the water conveyances systems developed as part of the SWP California. The SWP includes 701 miles of aqueducts, canals and pipelines and the California Aqueduct comprises 444 miles of the system. The aqueduct was a critical component of the SWP and was an essential feature in the development of California. The water serves users in the San Joaquin Valley where the aqueduct allowed thousands of acres of new land to be cultivated, thereby dramatically increasing California's agricultural efforts in the region and propelling the state to the top in nationwide in agricultural production. In Southern California, the aqueduct serves municipal users by supplying drinking water. The aqueduct represents one of the most bold and successful public works projects ever initiated by a state government. The California Aqueduct profoundly altered the distribution of water resources across California. Without its construction, the maldistribution of water in California would likely have continued because Northern California still receives more rain than any other region in California. Without the SWP and the aqueduct, precious runoff would have drained into to the ocean unused. The forecasted population increases, particularly for Southern California and the San Francisco Bay Area necessitated a system of water redistribution. The aqueduct facilitated the agricultural development the San Joaquin Valley and Southern California. Therefore, it appears to meet NRHP/CRHR Criterion A/1.

The California Aqueduct is associated with many individuals who contributed to the planning and implementation of the project. Within certain contexts those individuals could be considered significant under NRHP/CRHR Criterion B/2. One notable person associated with the aqueduct is Governor Edmund G. "Pat" Brown. Brown was instrumental in spurring political and public support for the construction of the SWP, including the California Aqueduct, and its completion was one of his most significant accomplishments as governor. The aqueduct was one of several significant achievements of Brown's governorship. Brown was also responsible for the Fair Housing Act, Fair Unemployment Act, the master plan for higher education in California and the expansion of the state highway system. Each of these is also important for their association with Governor Brown. According to *National Register Bulletin 32: Guidelines for Evaluating and Documenting Properties Associated with Significant Persons*, an eligible property must be directly associated with the significant individual and be the

best property to represent the person's significance. The aqueduct does not appear significant under NRHP/CRHR Criterion B/2 for its association with Governor Brown because it is not the best representation of Brown's significance. His significance can be better tied to other properties, including places such as his former office or home. Those are the properties where Brown conducted his work, including the planning and drafting of critical legislation that brought the aqueduct to fruition. The aqueduct does symbolize Brown's dedication to California's development, but the symbolic value is not a substitute for direct association. Nor is it the best representation or only surviving property that can convey Brown's significance as governor.

As an engineering structure, the California Aqueduct appears to meet NRHP/CRHR Criterion C/3. The California Aqueduct introduced design innovations in the construction of the system. Within the context of water conveyance it is a significant and distinguishable engineering entity significant for its type, period and method of construction and is the largest water conveyance structure in California. The trapezoidal design and the concrete lining of the aqueduct allowed it to carry more water and reduce the loss of head water and seepage and made the aqueduct more efficient. Because the SWP operates on a controlled volume concept, the design for the aqueduct required more check structures that could accommodate change in flows during peak flows with a minimal surface fluctuation. The California Aqueduct was built as a utility system with the capacity for performance and a tremendous amount of structural integrity. The aqueduct is also distinguishable in its use of a high depth-width ratio which allowed for the reduction of adverse effects of alignment curvature on the flow.

Under NRHP/CRHR Criterion D/4 the California Aqueduct is not likely to yield information important to history because as a water conveyance system it is not the principal source of important information. Therefore, the aqueduct is not a contributor under this criterion.

Because completion of the aqueduct is less than 45 years old it is also evaluated under NRHP Criterion Consideration G and the CRHR special consideration for properties less than 50 years old. The California was a planned comprehensive water redistribution system that helped shape the development of much of California following the mid-20th century. Water development is an important and ongoing historic theme within the history of the west. Added to this is the magnitude of planned change to the California landscape brought about by this single engineered public works project and the ability for the California Aqueduct to meet the definition of "exceptional importance" at the statewide level is clear. The general understanding of the exceptional importance of this system is evidenced in the ASCE listing it as one of only 10 internationally ranked "Monuments of the Millennium" for its remarkable engineering aspects, as well as for the positive impact it had on regional economic trade and development.

In addition to being significant, the California Aqueduct also retains sufficient integrity to convey its significance. The aqueduct retains integrity of location because it exists in its original alignment and has not been redirected. Integrity of design is maintained and the aqueduct continues to reflect the historic functions as a water conveyance structure and its scale, proportion and relationship to other features of the SWP is maintained. The integrity of materials is also retained. The aqueduct has undergone routine maintenance, but its primary material of unreinforced concrete has not changed. The California Aqueduct continues to display integrity of workmanship and the construction techniques used on the aqueduct are still visible. Although the setting around the aqueduct is altered in places, the setting for the overall 444 miles is intact. The aqueduct was designed to blend into the landscape, which remains largely rural and agricultural. Thus, the California Aqueduct retains integrity of setting and expresses the basic physical conditions under which it was constructed. Lastly, the California Aqueduct retains integrity of feeling and association. The proximity to agricultural lands and Interstate 5, provides a historic sense of time and place for the aqueduct. In combination with the control facilities, bridges that cross the aqueduct, and maintenance roads, enhances the aqueducts integrity of feeling and association and allows the aqueduct to express its significance as a water conveyance feature.

In summary, the California Aqueduct appears to meet the criteria for listing in the NRHP and the CRHR for its representation as a comprehensively planned and publicly sanctioned water conveyance public works project to facilitate development throughout the state and its complex design necessary to redistribute water throughout the state of California on such a massive level. The aqueduct also retains the aspects of integrity required to convey its significance.

References (cont)

Autobee, R.
2011 *San Luis Unit: West San Joaquin Division, Central Valley Project*. U.S. Bureau of Reclamation. Electronic document, http://www.usbr.gov/projects//ImageServer?imgName=Doc_1303396586494.pdf, accessed October 20, 2011.

California Department of Water Resources (DWR)
1957 *The California Water Plan*. Bulletin No. 3. Sacramento.

1974 *California State Water Project Volume II: Conveyance Facilities*. Bulletin No. 200. Sacramento.

2010 SWP: 50 Years & Counting. Electronic document, http://www.water.ca.gov/recreation/brochures/pdf/50swp.pdf, accessed October 2011.

2011 "History of the California State Water Project. Available at http://www.water.ca.gov/swp/history.cfm, accessed October 2011.

Garone, P.
2011 *The Fall and Rise of the Wetlands of California's Great Central Valley*. University of California Press, Berkeley.

Golze, A. R.
1965 Status of Construction of the State Water Project. Presented before the California State Chamber of Commerce, Los Angeles, California.

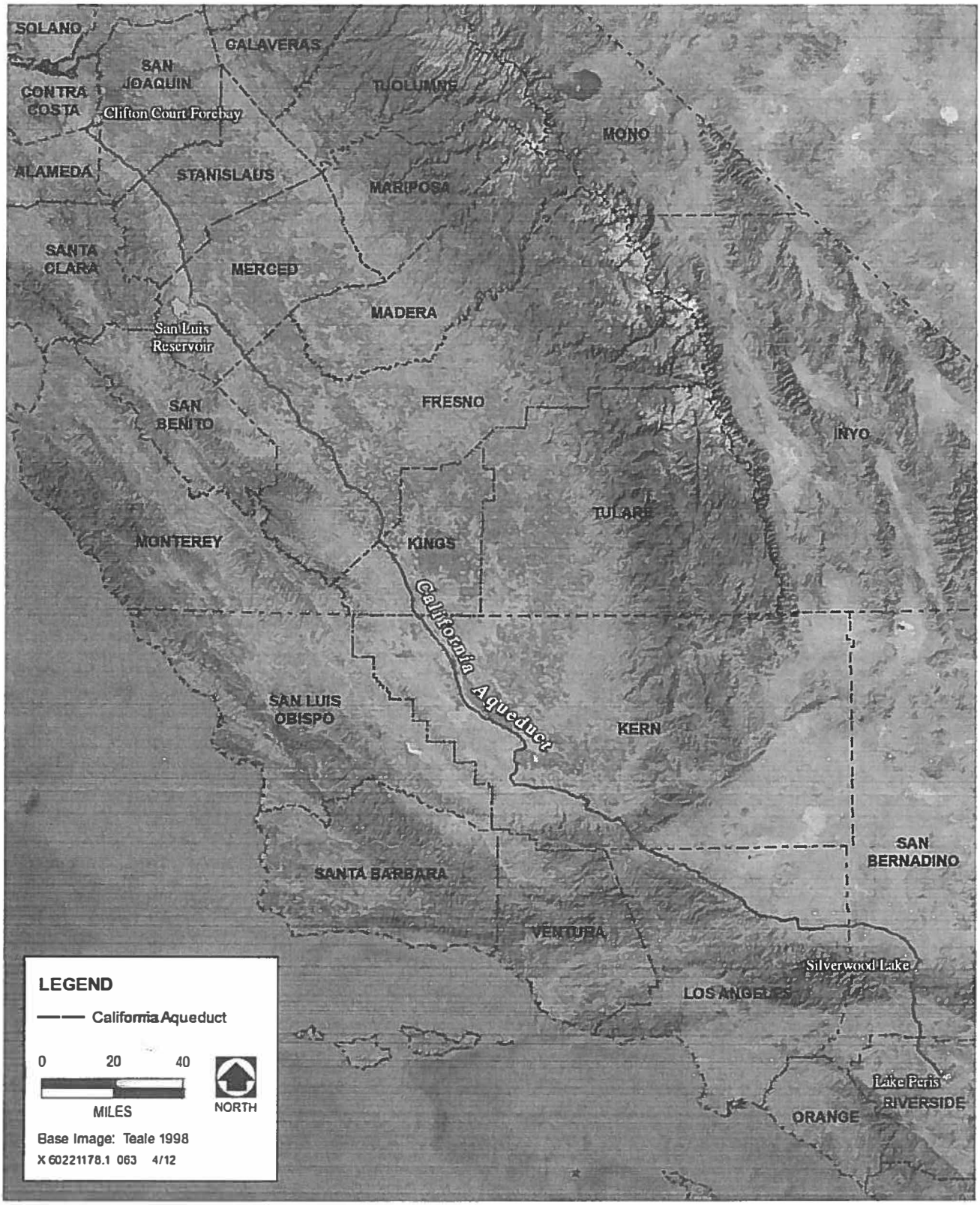
San Luis Unit Central Valley Project
1963 Pamphlet. Ralph L. Milliken Collection at the Ralph Milliken Museum, Los Banos, California.

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

Primary # 36-021351
HRI #
Trinomial

*Resource Name or # (Assigned by recorder) California Aqueduct

*Map Name California Aqueduct *Scale 1:40 *Date of Map 2011



*Required Information

Update 8/12

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

PRIMARY RECORD

Primary # P-36-021351
HRI #
Trinomial CA-SBR-15913H
NRHP Status Code

Other Listings
Review Code Reviewer Date

*Resource Name or #: SRI-5124 (UPDATE)

P1. Other Identifier: SRI-5124
*P2. Location: ☑ Not for Publication ☐ Unrestricted *a. County: San Bernardino
*b. USGS Quad: 7.5' SILVERWOOD LAKE (2009); T 3N R 4W, NE¼ of NW¼ of Sec. 32; SBBM
c. Address:
d. UTM: Zone 11; 470371 mE/ 3796217 mN NAD27 GPS
e. Other Locational Data:
This section of the aquaduct crosses Highway 173 at postmile 1.6.

*P3a. Description:
This is an update for a portion of the California Aqueduct, P-36-021351. The segment recorded here crosses Highway 173, near the Mojave Siphon Powerplant. The segment is completely buried and not visible on the ground surface within the right-of-way.

*P3b. Resource Attributes: HP20, Aqueduct; AH6, Water conveyance system;
*P4. Resources Present: ☐ Building ☐ Structure ☐ Object ☑ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

*P5b. Description of Photo:
Facing NE; 4/27/2011; aquaduct

*P6. Date Constructed/Age & Sources:
☑ Historic ☐ Prehistoric ☐ Both

*P7. Owner and Address:
STATE OF CALIFORNIA, STATE CAPITOL, SUITE 1173
SACRAMENTO, CA

*P8. Recorded by:
S. Kremkau, SRI

*P9. Date Recorded: 5/11/2011
*P10. Survey Type:
Reconnaissance survey of highway right-of-way

*P11. Citation: Report forthcoming

*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:

*Required Information

*A1. Dimensions: a. Length 108 m (N/S) x b. Width 41 m (E/W)
Method of Measurement: ☐ Paced ☐ Taped ☐ Visual estimate ☑ GPS ☐ Other:
Method of Determination: ☐ Artifacts ☑ Features ☐ Soil ☐ Vegetation ☐ Topography ☐ Cut bank ☐ Animal burrow ☐ Excavation ☐ Property boundary ☑ Other: The site boundary is determined in part by the right-of-way established ...
Reliability of determination: ☐ High ☑ Medium ☐ Low
Explain: The route of the aquaduct is easy to follow, but the site is entirely underground within the ...
Limitations: ☐ Restricted access ☑ Paved/built over ☑ Site limits incompletely defined ☐ Disturbances ☐ Vegetation ☐ Other:

A2. Depth: ☐ None ☑ Unknown Method of determination: The site is below the ground surface in ...

*A3. Human Remains: ☐ Present ☑ Absent ☐ Possible ☐ Unknown

*A4. Features:
This is an update for a portion of the California Aqueduct, P-36-021351. The site consists of a section of aqueduct (Feature 6197), which is entirely underground within in the Caltrans right-of-way. The Mojave Siphon Powerplant is just beyond the right-of-way on the south side of Highway 173. A metal fence blocks access from the highway to the powerplant, and small section of the fence is present in the right-of-way.

*A5. Cultural Constituents:
No artifacts are associated with the site.

*A6. Were Specimens Collected? ☑ No ☐ Yes

*A7. Site Condition ☑ Good ☐ Fair ☐ Poor
The site is completely buried within the right-of-way.

*A8. Nearest Water: The Mojave River exits Silverwood Lake is just east of the site.

*A9. Elevation: 975 m amsl

A10. Environmental Setting:
The section of the site within the right-of-way is located at the southern side of an east/west trending ridge, in a transition zone between chaparral scrub vegetation to the south and a floodplain to the north. The area immediately around the site has been disturbed by the construction of the aquaduct and related facilities.

A11. Historical Information:
According to the previous record, the aqueduct was constructed between 1966 to 1973.

*A12. Age: ☐ Prehistoric ☐ Protohistoric ☐ 1542-1769 ☐ 1769-1848 ☐ 1848-1880 ☐ 1880-1914 ☐ 1914-1945 ☑ Post-1945 ☐ Undetermined

A13. Interpretations:
None

A14. Remarks:
This is an update for a portion of the California Aqueduct, P-36-021351.

A15. References:
None

A16. Photographs: See photograph record
Original Media/Negatives Kept At: 21 W. Stuart Ave, Redlands, CA 92373

*A17. Form Prepared By: S. Kremkau Date: 5/11/2011
Affiliation and Address: Statistical Research, Inc., 21 W. Stuart Ave, Redlands, CA 92373

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

LINEAR FEATURE RECORD

Primary # P-36-021351
HRI #
Trinomial

*Resource Name or #: SRI-5124 (UPDATE)

L1. Historic and/or Common Name: None

L2a. Portion Described: ☐ Entire Resource ☑ Segment ☐ Point Observation **Designation:** Feature 6197

L2b. Location of Point or Segment:
Zone 11; 470364 mE/ 3796197 mN NAD27 GPS
Zone 11; 470381 mE/ 3796248 mN NAD27 GPS

L3. Description:
This is an update for a portion of the California Aqueduct, P-36-021351. The site consists of a section of aqueduct (Feature 6197), which is entirely underground within in the Caltrans right-of-way. The Mojave Siphon Powerplant is just beyond the right-of-way on the south side of Highway 173. A metal fence blocks access from the highway to the powerplant, and small section of the fence is present in the right-of-way.

L4. Dimensions:
- **a. Top Width:** 35.00 m
- **b. Bottom Width:** N/A
- **c. Height or Depth:** 1.00 m
- **d. Length of Segment:** 50.00 m

L5. Associated Resources:
None

L4e. Sketch of Cross-Section: **Facing:**

L6. Setting:
The section of the site within the right-of-way is located at the southern side of an east/west trending ridge, in a transition zone between chaparral scrub vegetation to the south and a floodplain to the north. The area immediately around the site has been disturbed by the construction of the aquaduct and related facilities.

L7. Integrity Considerations:
The site is completely buried within the right-of-way.

L8b. Description of Photo, Map, or Drawing
See sketch map

L9. Remarks:
This is an update for a portion of the California Aqueduct, P-36-021351.

L10. Form Prepared By:
S. Kremkau

L11. Date: 5/11/2011

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

PHOTOGRAPH RECORD

Primary # P-36-021351
HRI #
Trinomial

***Resource Name or #:** SRI-5124 (UPDATE)

Camera Format:
Lens Size:
Film Type and Speed: Digital
Negatives Kept At: 21 W. Stuart Ave, Redlands, CA 92373

Date	Time	Exp/ Frame	Subject/Description	View Toward	Accession #
5/13/2011		1123	aquaduct	NE	
4/27/2011		3405	aquaduct	NE	
5/13/2011		1124	aquaduct	SW	

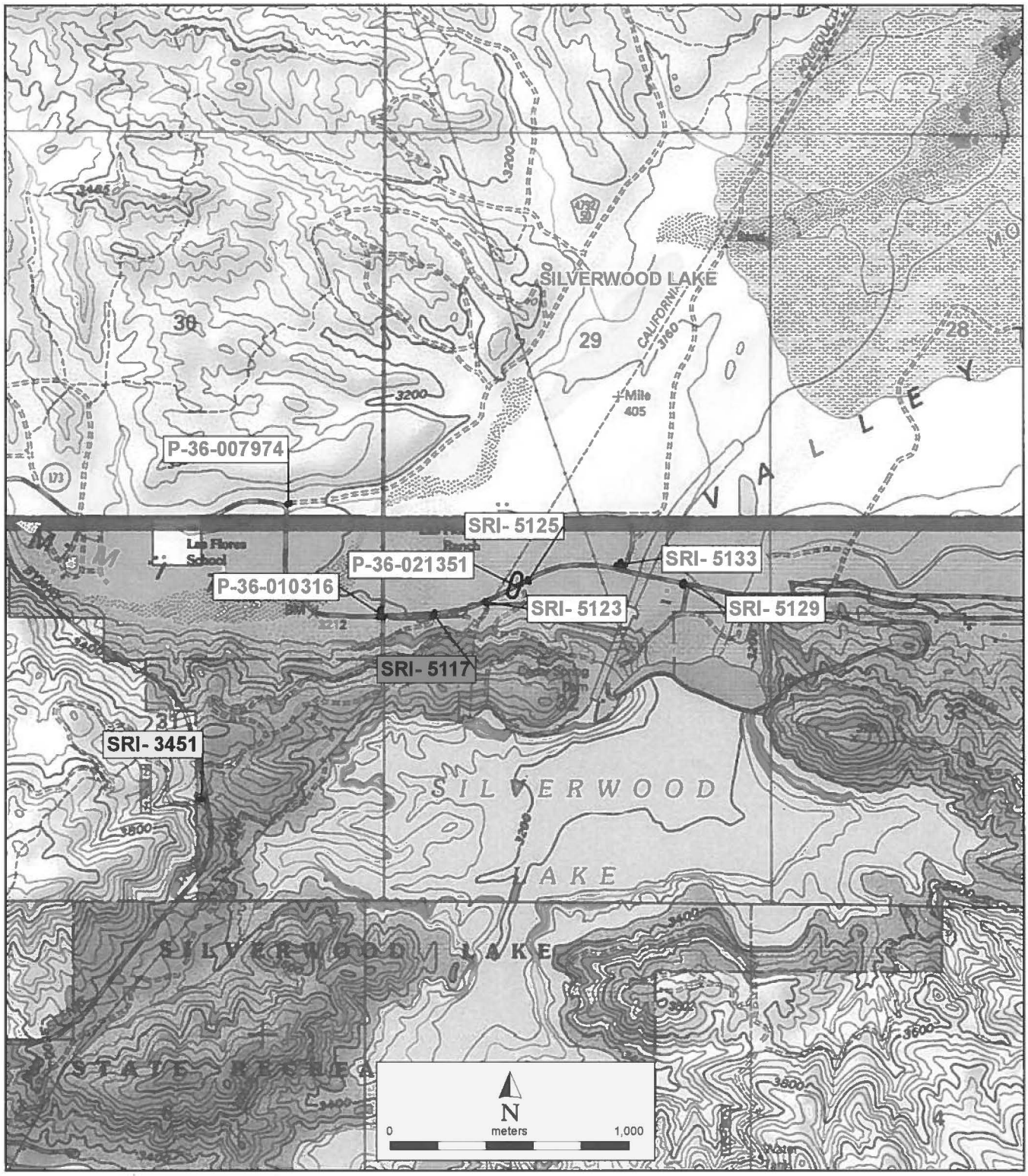
State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary # P-36-021351
HRI #
Trinomial

*Resource Name or #: SRI-5124 (UPDATE)

*Map Name: 7.5' SILVERWOOD LAKE USGS Topographic Quad Scale: 1:24,000 *Year: 2009



*Required Information

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

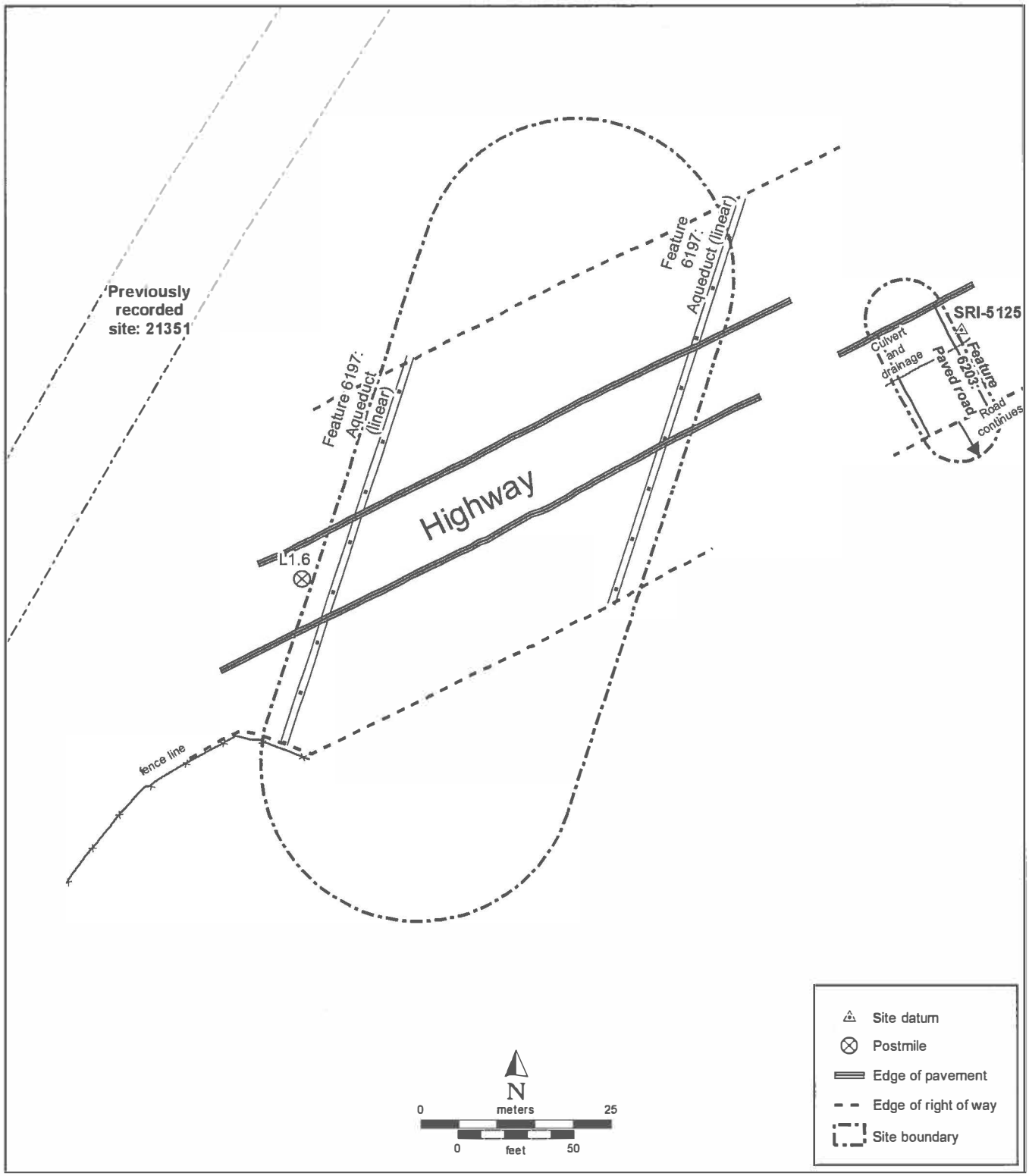
SKETCH MAP

Primary # P-36-021351
HRI # _____
Trinomial _____

*Resource Name or #: SRI-5124 (UPDATE)

*Drawn By: S. Kremkau

*Date: 05/11/2011



*Required Information

P2d. UTM
Zone 11; 470381 mE/ 3796248 mN NAD27 GPS

P4. Resources Present
[X] Other (linear)

A1. Method of determination
by Caltrans.

A1. Reliability of determination
right-of-way, so the exact site dimensions are unknown.

A2. Depth method of determination
the right-of-way, but the depth is unknown.

1066652 5/10

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

Primary # 36-021361 H
HRI #
Trinomial
NRHP Status Code

Other Listings
Review Code Reviewer Date

*Resource Name or #: East Branch of the California Aqueduct (EBA)

P1. Other Identifier: East Branch of the California Aqueduct (EBA)

*P2. Location: ☐ Not for Publication ■ Unrestricted *a. County: San Bernardino, Los Angeles, Riverside

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

*b. USGS 7.5' Quad: Baldy Mesa, Mescal Creek, Phelan, Shadow Mountains SE, Silverwood Lake, Burnt Peak, Del Sur, Fairmont Butte, Juniper Hills, La Liebre Ranch, Lake Hughes, Lancaster West, Littlerock, Mescal Creek, Neenach School, Palmdale, Ritter Ridge, and Valyermo Date: n/a T ; R ; ¼ of ¼ of Sec ; ~~MD~~ SB B.M.

c. Address: City: Zip:

d. UTM: Zone: 11; mE/ mN (G.P.S.)

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

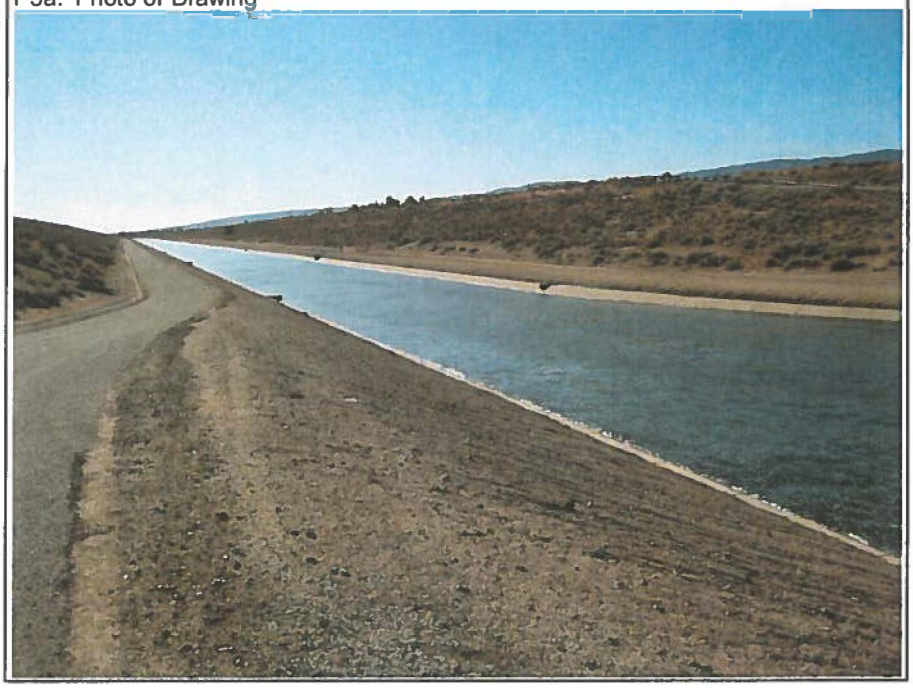
*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Constructed between 1966 and 1973, the East Branch of the California Aqueduct (EBA) is a 98-mile segment of the larger, 444-mile California Aqueduct (State Water Project or SWP), which delivers water from northern California to southern California. The northern end of the EBA begins where the east and west branches of the California Aqueduct split just below the Tehachapi Afterbay in eastern Los Angeles County, while the southern end of the EBA terminates at Lake Perris in western San Bernardino County. The EBA runs along the eastern base of the San Gabriel and San Bernardino Mountains, passing near the communities of Lancaster, Palmdale, Hesperia, and Victorville. The EBA consists of series of canals, siphons, tunnels, penstocks, a power plant, and a pumping plant (See Continuation Sheet).

*P3b. Resource Attributes: HP20 -- canal/aqueduct

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

P5a. Photo or Drawing



P5b. Description of Photo: EBA, facing southwest, near Alamo Power Plant

*P6. Date Constructed/Age and Sources: ■Historic
☐Prehistoric ☐Both
1966-1973

*P7. Owner and Address:
CA Dept. of Water Resources
1416 Ninth Street
Sacramento, CA 95814

*P8. Recorded by: Katherine Anderson.
ESA | 2600 Capitol Ave, Suite 200.
Sacramento, CA 95816

*P9. Date Recorded: November, 2009

*P10. Survey Type: intensive

*P11. Report Citation: ESA, *DWR East Branch Enlargement Phase II Administrative Draft EIR*. Prepared for the California Department of Water Resources, 2009

*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):

***P3a. Description:**

The EBA consists of a number of contributing elements that form a cohesive water conveyance system, including the canal itself, canal check structures, siphons, overcrossings and culverts, bridges, and associated facilities such as the Alamo Power Plant and the Pearblossom Pumping Station. Each of these is described below.

Canal

The EBA canal is a concrete lined trapezoidal canal measuring between 12 and 16 feet wide at its base, between 90 and 120 feet wide at the surface, and with an average depth of 20 feet (**Figure 1**). The 98-mile-long canal is divided into multiple zones or 'pools. 'Most pools have side slopes of 2:1, while some pools have slopes of 3:1. The concrete lining thickness varies between 3-4 inches. Earthen berms line both sides of the canal except in areas of more mountainous terrain. Located on top of the berms are paved and unpaved maintenance roads which measure approximately 20 feet wide. The canal becomes narrower and shallower the further south it extends, as water is distributed to various agencies. The entire right of way (ROW) is surrounded by chain link fencing, including the maintenance roads and at bridge overcrossings where metal gates are used to prevent unauthorized vehicle access.

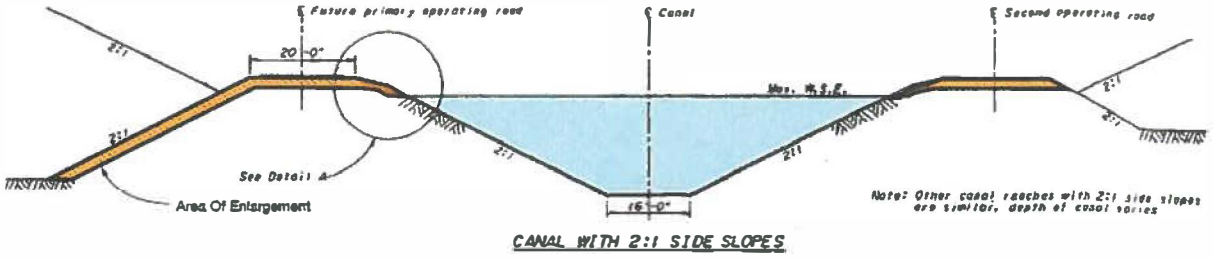


Figure 1. Typical Canal Cross Section

Canal Check Structures

The EBA consists of a series of canal pools controlled by gate check structures (**Figure 2** on following page). The EBA contains 24 canal check structures, each of which consists of two to four 13-foot wide bays. The spacing of checks was based on operational considerations with the slope of the canal a primary factor. Hydraulic isolation of the San Andreas Fault crossing also influenced check spacing. This resulted in spacing of 2 to 6 miles between checks from Cottonwood Chute to Pearblossom Pumping Plant and 4 to 17 miles between checks from Pearblossom Pumping Plant to Silverwood Lake. A typical canal check structure consists of two concrete box culvert bays, each approximately 13 feet wide and approximately 30 feet long. Metal radial gates are located within the bays and extend the depth of the canal, with operating machinery located in enclosed concrete block buildings adjacent to the check structure. Chain link and barbed wire fencing, with associated access gates, enclose the entire facility.

Figure 2. Canal Check Structure, facing southwest

Siphons

The EBA consists of 15 siphons, ranging in length from 185 feet to approximately 12,600 feet, predominantly located underground and consisting of two to three 13-foot diameter barrels, depending on the location. The flow of water is controlled by 13-foot high radial gates (**Figure 3**). Siphons are pipelines used to convey water across a range of elevations (or topography) without the need for pumping.

Figure 2. Box Siphon, facing southwest

Overcrossings

Overcrossings, or bridges, allow vehicular egress across the canal throughout the system. There are 37 bridges which cross the EBA. Most of these are continuations of public roadways which existed prior to the construction of the EBA, and were built simultaneously with the canal from 1966 to 1973. A typical roadway bridge is a two-lane vehicular bridge constructed of pre-stressed concrete and supported by steel beams or girders and with concrete abutments, a paved roadway deck, and steel guardrails (**Figure 4**). The bridges allow for both public and private access. The DWR constructed Neenach Bridge to carry State Highway 138 over the canal. The Antelope Highway Bridge was constructed concurrently with the canal. In anticipation of the EBA and prior to canal construction, bridges were built to carry State Highway 395 and Interstate Highway 15 over the canal. One railroad bridge was built prior to aqueduct construction to carry the Southern Pacific Company's Cajon-Palmdale rail line over the canal. The Interstate 15 bridge has a steel, double-box section which carries traffic over the canal. The State Highway 395 bridge is a concrete bridge which has a clear-span over the canal. Southern Pacific Company's railroad bridge has two pile-supported piers within the canal waterway.

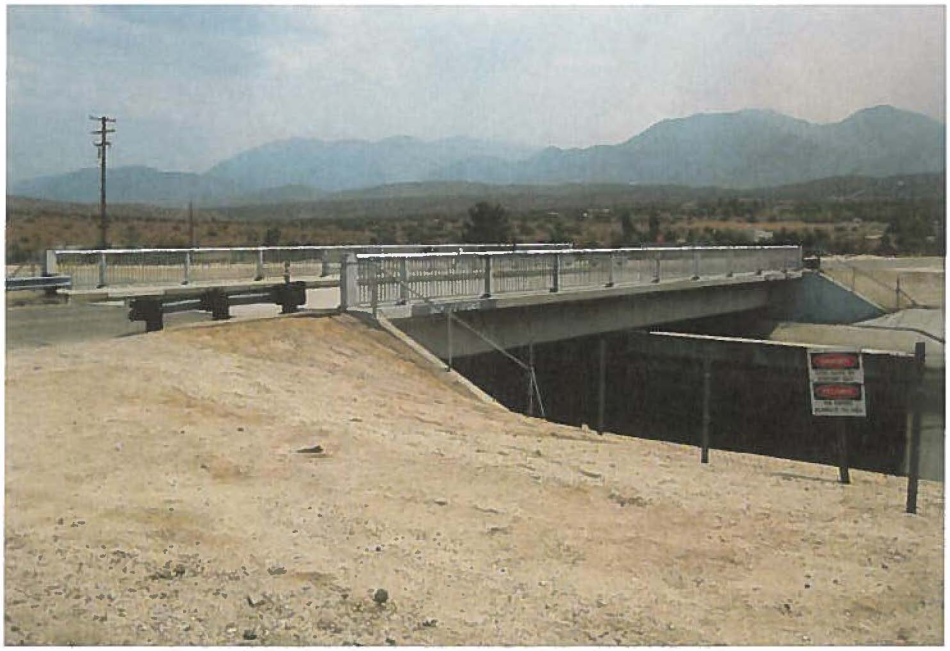


Figure 4. Typical Overcrossing - 121st Street East Bridge

Culverts and Overchutes

Culverts and Overchutes are features which allow water to flow over or under the canal. The EBA has 107 culverts and 83 overchutes in the Project area. Primarily for use during floods, these features allow floodwater to cross the canal without entering it. There are several different varieties of concrete culverts and overchutes located along the EBA, primarily differing in their width. They typically consist of one to three channels for overshoots and one to five channels for culverts which come in both box and pipe varieties. The size of the overchute or culvert is determined by the quantity of water expected in floodflows in that location. Both types of features are constructed of reinforced-concrete, although culverts include both box and pipe varieties. Culverts are used in areas of more pronounced topographic relief, whereas overchutes occur in flatter terrain. A typical overchute, such as the triple box overchute (**Figure 5**), consists of three rectangular, open air reinforced concrete channels spanning the width of the canal. Typical culverts, such as the triple box culvert (**Figure 6**), consist of reinforced concrete boxes crossing underneath the canal, with tapered concrete inlets to direct waterflow.

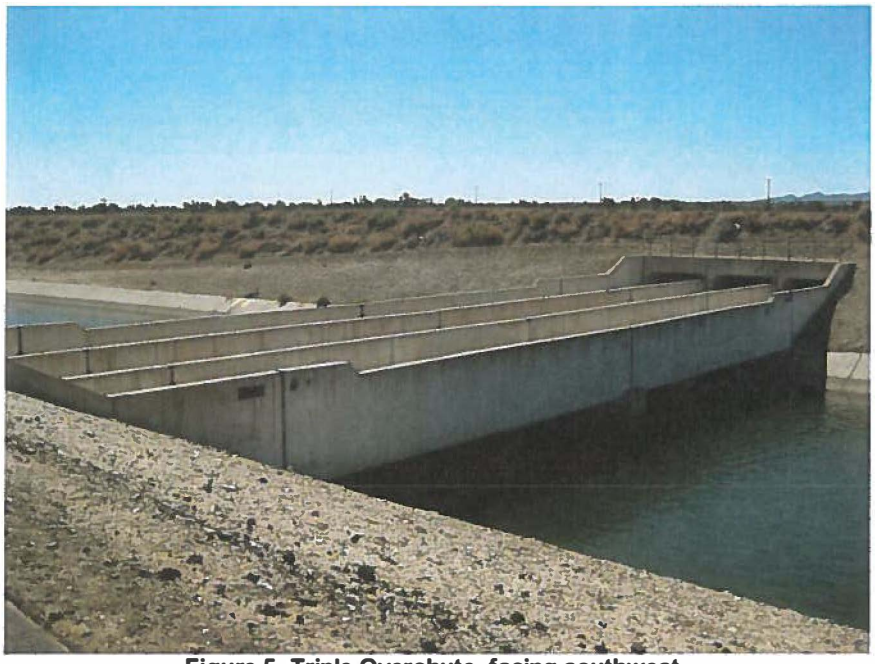


Figure 5. Triple Overchute, facing southwest

Figure 6. Triple Box Culvert, facing south

Alamo Power Plant

The water system's secondary function, after conveying water, is providing hydroelectric power. The Alamo Power Plant is located at the northern end of the EBA, approximately 1.7 miles downstream of the bifurcation of the East and West Branches. The Alamo Power Plant uses water passing through it to generate electricity through the movement of electrical turbines. The Alamo Power Plant is large, single story structure constructed of reinforced concrete, and measures approximately 85 feet by 100 feet (**Figure 7**). A large, steel gantry crane located on the roof of the plant is used to perform maintenance on the turbines contained within the structure.

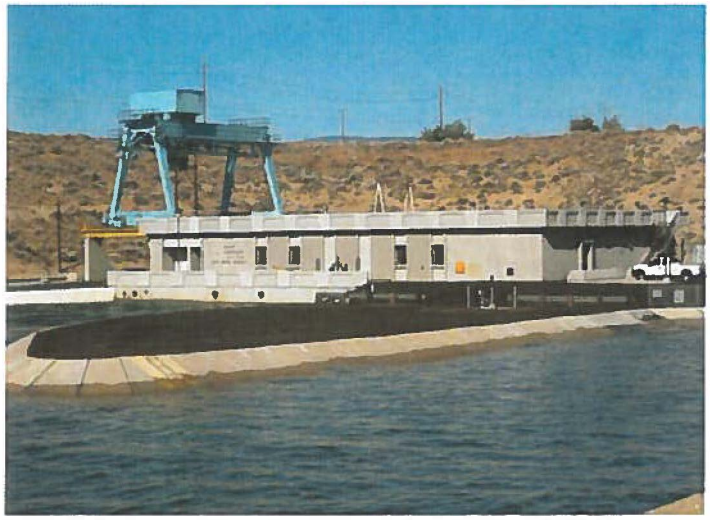


Figure 7. Alamo Power Plant, facing northwest

Pearblossom Pumping Plant

The Pearblossom Pumping Plant is located near Highway 138, northwest of the community of Pearblossom. The plant consists of a reinforced concrete substructure with a structural steel superstructure, and measures approximately 275 feet by 124 feet (**Figure 8**). The pumps lift the water 542 feet, allowing it to flow downhill for 40-50 miles to the Mojave Siphon Power Plant. Additional photos of the EBA are provided below.

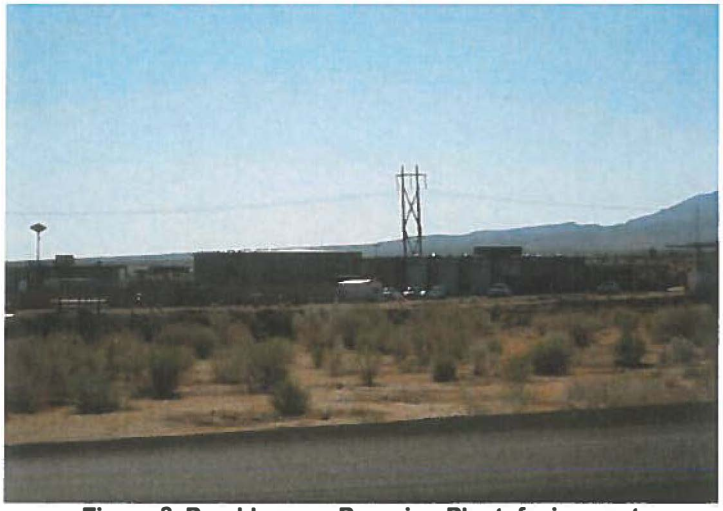
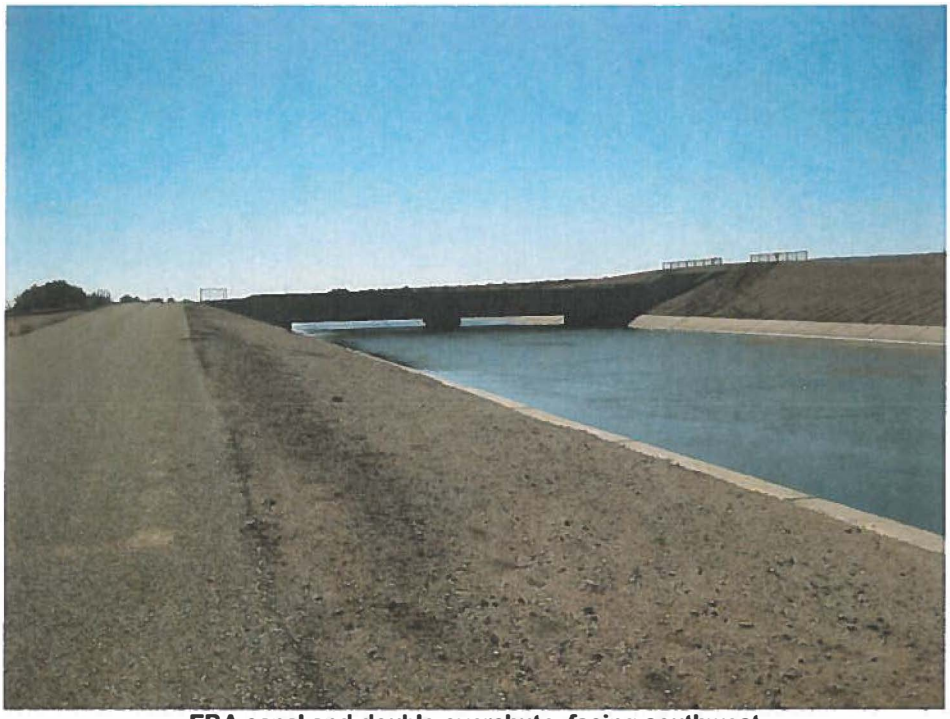
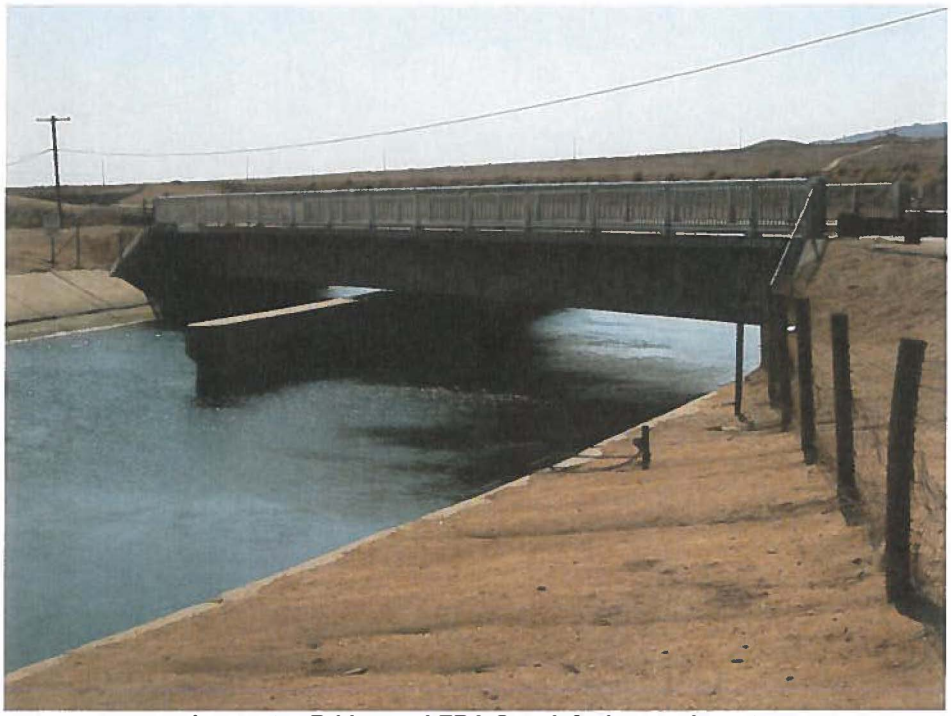


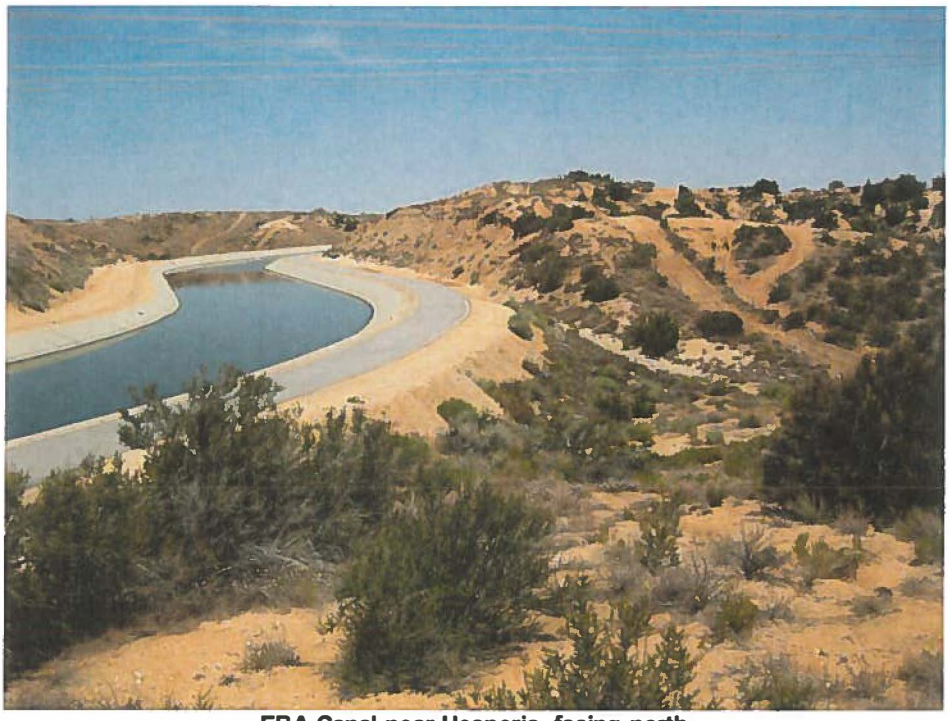
Figure 8. Pearblossom Pumping Plant, facing east



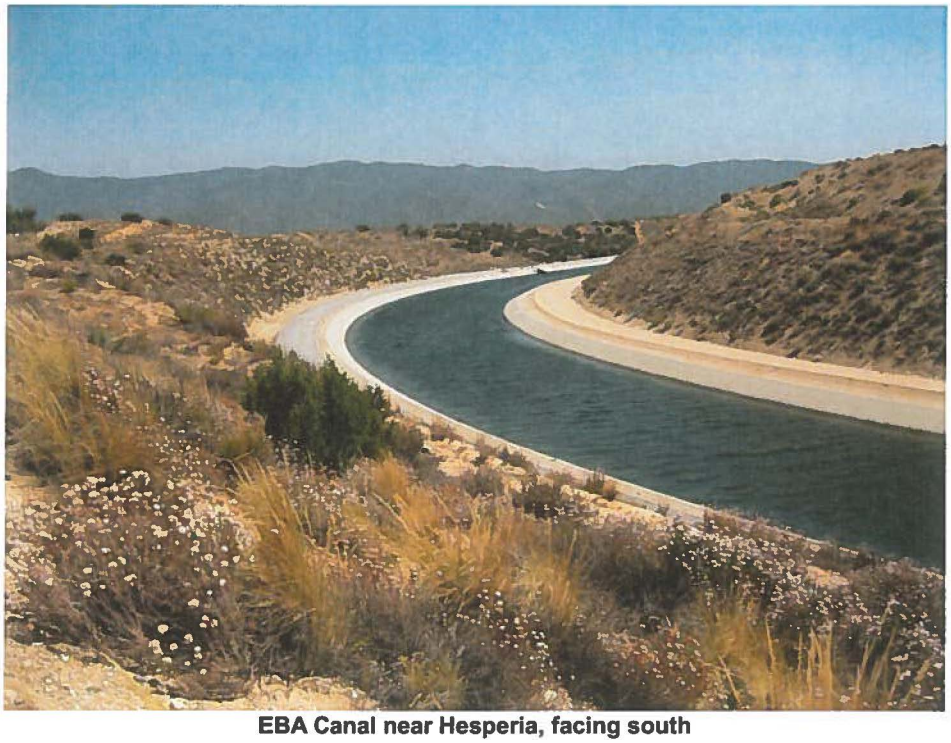
EBA canal and double overchute, facing southwest



Lancaster Bridge and EBA Canal, facing northwest



EBA Canal near Hesperia, facing north



EBA Canal near Hesperia, facing south

*NRHP Status Code 3S

*Resource Name or #: East Branch of the California Aqueduct (EBA)

B1. Historic Name: East Branch of the California Aqueduct
B2. Common Name: East Branch of the California Aqueduct
B3. Original Use: canal/aqueduct
B4. Present Use: canal/aqueduct
*B5. Architectural Style: industrial
*B6. Construction History:
1966-1973 Original construction
1984 Phase I enlargement

*B7. Moved? ■No ☐Yes ☐Unknown Date: Original Location:
*B8. Related Features:

B9a. Architect: California Dept. of Water Resources
b. Builder: Kirst Construction Company and Granite Construction Company

*B10. Significance: Theme: water conveyance
Area: California
Period of Significance: 1955-1973
Property Type: Canal and related structures
Applicable Criteria: A, C

California Aqueduct

While an aqueduct to bring water from northern California to southern California had been a part of the State Water Project from the early 1950s, the exact route and means of providing that water was a matter of extensive debate. The route over the Tehachapi range, the "high line," was originally advanced by A.D. Edmonston in the mid 1950s; however regional political negations resulted in an extended debate over the route for the aqueduct (Cooper, 1968). More westerly communities and water districts preferred a coastal route which would require less pumping but result in longer lengths and greater construction costs. The easterly communities preferred the high line route, which would require water to be pump-lifted more than 3,000 feet uphill over the Tehachapi range, resulting in increased electrical costs for operation. Tunneling through the Tehachapi range was suggested, however the destructive presence of the San Andreas Fault led engineers to place the pipelines above ground for easy access for future repair (Cooper, 1968). (See Continuation Sheet)

B11. Additional Resource Attributes: HP20 -- canal/aqueduct

*B12. References:

(See Continuation Sheet)

B13. Remarks:

*B14. Evaluator: Katherine Anderson, ESA. 2600 Capitol Ave, Suite 200, Sacramento, CA 95814

*Date of Evaluation: November, 2009.

(This space reserved for official comments.)

***B10. Significance:**

The selection of the aqueduct route would determine which areas in southern California would thrive and which would wait. In order to determine the financial feasibility of the project, the state legislature in 1956 authorized a comprehensive survey of alternative aqueduct routes and their economic and financial implications. The study analyzed project population growth within southern California, as well as the economic feasibility of a variety of aqueduct routes bringing water from northern California. It was determined that both a coastal and inland route would be necessary to supply southern California with water for its projected population. Engineers suggested a combination of routes, with aqueduct branches to carry water in several directions. In 1958, DWR Bulletin 78, *Investigation of Alternative Aqueduct Systems to Serve Southern California,* unveiled the plan for the three branch system: coastal, western and eastern:

> "The latest projections of future population and economic growth in these areas, as reported in this bulletin, indicate that the recent phenomenal growth therein will continue. It is estimated that about 5.5 million acre-feet of supplemental water would have to be imported from northern California by the year 2020 to sustain this growth, and that initial water deliveries would have to be made by 1965 in the San Joaquin Valley portion of these areas, and by 1971 to most of the remainder.
>
> It is concluded that the one system that would meet these demands for water most economically, would comprise an aqueduct from the Delta along the west side of the San Joaquin Valley to Avenal Gap, branching there into a coastal aqueduct leading to Santa Maria Valley, and an inland aqueduct from Avenal Gap south through Kern County and across the Tehachapi Mountains; with a west branch terminating at the north edge of San Fernando Valley and an east branch extending along the south edge of the Antelope Valley through the San Bernardino Mountains and terminating at Perris Reservoir site in Riverside County. This system would also provide the best combination, from the standpoint of mineral quality, of imported northern California water with the other sources of water, both local and imported, available to southern California." (DWR, 1958)

By 1963, 13 water agencies had signed contracts with the DWR, and of those, 10 would be provided with water carried by the East Branch Aqueduct: San Bernardino Valley Metropolitan Water District, Desert Water Agency, San Gabriel Valley Metropolitan Water District, San Gorgonio Pass WA, Palmdale Irrigation District, Coachella Valley Water District, Crestline-Lake Arrowhead Water Agency, Mojave Water Agency, Littlerock Creek Irrigation District, and the City of West Covina (DWR, 1963). Previously, many of these districts had relied on groundwater resources or the Colorado River or Owens River Aqueduct to supply their water needs. This resulted in inadequate water supply that was intended to be supplemented by the transfer of water from northern California to southern California. Water delivery began in the northernmost districts, and extended south as sections of the aqueduct were completed (DWR, 1958).

Construction began on the California Aqueduct in 1963, with the fist delivery of water to the San Joaquin Valley by 1968. Because the aqueduct was the largest and most vital element of the system, contractors worked on it through the entire construction period of the SWP. The aqueduct was constructed to the Tehachapi Range in 1971. The A.D. Edmonston Pumping Plant, the largest pumping facility of the State Water Project, with the ability to lift water almost 2,000 feet up and over the Tehachapi Mountains began construction in 1965, and was completed in 1970. The aqueduct to Lake Perris at the southernmost end of the project, as well as Perris Dam, was completed in 1973. The 128 foot high dam, holding 127 acre/feet of water, resulted in the creation of the third largest manmade lake in southern California. The filling of Perris Lake marked the end of initial SWP construction, with all basic facilities completed and operational by 1973 (DWR, 1973). By the 1970s, southern California was connected by a vast network of Federal, State and local dams and aqueducts to water supplies from northern California and the Colorado River watersheds.

From the early 1970s to the late 1980s, design and construction activities centered on building power plants and adding pumping units and turbine-generators deferred from the initial construction, enlarging or extending aqueduct reaches, and providing facilities to ensure water quality in the Delta (DWR, 2009). In the 1990s, design and construction activities focused on repairing and replacing components of existing facilities, constructing Phase II of the Coastal Branch to deliver water to San Luis Obispo and Santa Barbara counties, and extending the SWP to the San Gorgonio Pass service area (DWR, 2009). Maintenance, improvement, and expansion of the California Aqueduct and associated facilities are a continuing process.

East Branch of the California Aqueduct

The East Branch of the California Aqueduct (EBA) conveys water from the Tehachapi Afterbay to Lake Perris and consists of approximately 98 miles of canals, siphons, tunnels, penstocks, power plants, pumping plants, and reservoirs. The EBA extends from eastern Los Angeles County into western San Bernardino County, along the eastern base of the San Gabriel and San Bernardino Mountains, passing near the communities of Lancaster, Palmdale, Hesperia, and Victorville.

Construction of the EBA began in 1966 and continued through 1973. Working southward, the construction occurred in stages. The construction headquarters was located in Palmdale, with auxiliary offices at the various construction sites along the length of the EBA. The construction of the portion of the EBA from Tehachapi to Silverwood Lake occurred between 1970 and 1971. The section of the EBA from Silverwood Lake to Perris Lake was constructed between 1971 and 1973. Designed in-house by DWR engineers, and constructed by two private prime contractors, Kirst Construction Company and Granite Construction Company, the EBA originally consisted of approximately 91.5 miles of canal, 6.5 miles of inverted siphons, the San Bernardino Tunnel, one pumping plant, and one power plant (DWR, 1974, 1983). The total cost of the project was about $70 million.

Since its original construction, the EBA has undergone other enlargement projects in order to increase water capacity flowing to southern California. The Phase I Enlargement of the EBA added approximately 750 cubic feet per second (cfs) to the system and was completed in 1984. This enlargement included raising the canal lining, raising the walls of the check structures, installing additional siphon barrels, and increasing the capacities of the Pearblossom Pumping Plant and Alamo Power Plant, as well as the Mojave Siphon Powerplant and Devil Canyon Powerplant (the two latter facilities are not included in the present project area). The purpose of the enlargement was to partially offset the reduction of the Metropolitan Water District of Southern California's (MWD) Colorado River supply resulting from operation of the Central Arizona Project, and meet increasing demands on the eastern side of MWD's service area.

The EBA was evaluated for its historical significance under National Register and California Register criteria in the context of California water conveyance systems. Although the EBA is not yet 50 years old, it was evaluated under National Register Criterion G because it may have achieved significance within the past 50 years.

At approximately one-quarter of the length of the entire 444-mile California Aqueduct system, the 98-mile EBA segment and its contributing elements such as the canal, canal overcrossings, culverts, bridges, siphons, check structures, the Alamo Power Plant and the Pearblossom Pumping Plant, appears to be eligible under NRHP/CRHR Criteria 1/A for its association with major water systems development in southern California, and under Criteria and 3/C within the field of water conveyance engineering and design. Each of these is described in more detail below.

Criterion 1/A (Events)

Under NRHP/CRHR Criterion 1/A, the EBA is considered important for its association with the history of major water systems development in California. The California Aqueduct has significance in relation to large-scale developments in transporting water throughout California and supplying such resources to arid regions to influence the growth of farming and agricultural development starting in 1968. The aqueduct is part of the State Water Project, which "represents one of the most ambitious public works projects undertaken by the State of California" (JRP and Caltrans, 2000). The State Water Project provides water to more than two-thirds of the state's population and the Aqueduct is "by far the largest and most vital element" of the State Water Project (JRP and Caltrans, 2000). The State Water Project is a massive state-funded public works project and is significant for moving millions of acre-feet of water from northern California south for commercial, industrial and residential use in the San Joaquin Valley and southern California.

Criterion 2/B (Persons)

The EBA does not appear to be significant under NRHP/CRHR Criterion 2/B for its association with persons important in local, state, or national history. The EBA was designed in-house by DWR engineers and was constructed by various private contractors. There is no indication that the SWP leadership, or other individuals, obtained prominence because of their association with the construction or development of this portion of the EBA.

Criterion 3/C (Architecture/Engineering)

Under NRHP/CRHR Criterion 3/C, the EBA appears to be significant for its importance within the field of water conveyance engineering and design. This significance would derive from a structure embodying distinctive characteristics of type, period, or method of construction or representing the work of a master engineer, designer, or builder. Attributes to consider are its rarity, innovative design techniques or construction methods, boldness of the engineering achievement, and aesthetics. These attributes are weighed in conjunction with evaluation of a water conveyance's type, period, or method of construction and its association with possible historically significant engineers and/or builders. The California Aqueduct, including the contributory EBA segment, is potentially significant as an exceptional example of hydraulic engineering.

From its conception and construction, the California Aqueduct/State Water Project has been recognized as a major engineering enterprise. The California Aqueduct was selected by the American Society of Civil Engineers (ASCE) for its "ASCE Outstanding Civil Engineering Award for 1972" (DWR, 1974). In 2000, ASCE named the California Aqueduct/State Water Project as "one of the 100 Greatest American Engineering Achievements in the last century" and identified it as a "Civil Engineering Monument of the Millennium" in May 2001. The first Monument of the Millennium to be located on US soil, the California Aqueduct/State Water Project was selected for the water supply and distribution achievement in consideration of its remarkable engineering aspects, as well as for the positive impact it has had on regional economic trade and development. The ASCE further recognized the entire State Water Project as a landmark in American civil engineering in 2002 (American Society of Civil Engineers, 2001, 2002). In addition, the California Aqueduct is noted in *The Reference Guide to Famous Engineering Landmarks of the World* (Berlow, 1998).

Criterion D/4 (Information Potential)

The EBA does not appear to be significant under NRHP/CRHR Criterion D/4, as it does not appear that the aqueduct has the potential to yield information important to the prehistory or history of the local area, state, or nation.

Integrity

The EBA possesses a high level of integrity. Previous expansions and enlargements of the canal and associated facilities have been designed and implemented in a manner keeping with the function and industrial character of the canal and its associated features. These additions and alterations do not substantially detract from the overall integrity of the system. The EBA has maintained its original alignment within the APE despite these later alterations, and retains its integrity of location of setting and possesses integrity of design, materials, workmanship, feeling and association.

Summary

As a contributory component and critical element of the larger California Aqueduct/State Water Project system which has been previously recommended eligible for listing in the National Register and California Register, the 98-mile EBA segment would also be eligible for listing in the National Register and California Register. As a historic architectural/engineering resource eligible for listing in the National Register and California Register, the EBA would be considered a historic resource for CEQA purposes.

References:

American Society of Civil Engineers, "American Society of Civil Engineers names the California State Water Project (SWP) a Civil Engineering Monument of the Millennium", May 22, 2001, online at http://dev2.asce.org/pressroom/news/, accessed February 15, 2009.

American Society of Civil Engineers, "Landmarks in American Civil Engineering History: California State Water Project," *Civil Engineering ASCE*, Vol. 72, No. 11, pp 152-153, November/December 2002.

Banks, Harvey O., *California Water Project 1955-1961*, Bancroft Library, Regional Oral History Office, California Water Resources Center, University of California, Berkeley, 1967.

Berlow, Lawrence H., *The Reference Guide to Famous Engineering Landmarks of the World,* Oryx Press, Phoenix, Arizona, 1998.

Brown, Edmund G., Sr., *The California Water Project: Personal Interest and Involvement in the Legislation, Public Support and Construction in California Water Issues, 1950-1966.* Bancroft Library, Regional Oral History Office, California Water Resources Center, University of California, Berkeley, 1981.

Cooper, Ervin, *Aqueduct Empire: A Guide to Water in California, Its Turbulent History, its Management Today.* A. H. Clark Co., Glendale, CA, 1968.

California Department of Water Resources (DWR), *Investigation of Alternative Aqueduct Systems to Serve Southern California,* Bulletin No. 78, 1958.

_____, *Alternative Capacities of the California Aqueduct and Local Distribution Systems in Southern California*, 1963.

_____, *California State Water Project Annual Report: 1971*, 1972.

_____, *California State Water Project Annual Report: 1972*, 1973.

_____, *California State Water Project Annual Report: 1973*, 1974.

_____, *Enlargement of the East Branch of the Governor Edmund G Brown California Aqueduct,* 1983.

Environmental Science Associates (ESA), *East Branch Enlargement Phase II Cultural Resources Inventory Report*, Prepared for the California Department of Water Resources, 2009.

JRP Historical Consulting Services and California Department of Transportation (Caltrans), *Water Conveyance Systems In California, Historic Context Development and Evaluation Procedures.* Sacramento, California, 2000.

Leedom, Sam R., *California Water Development, 1930-1955.* Bancroft Library, Regional Oral History Office; California Water Resources Center, University of California, Berkeley, 1967.

McKoy, R.A, 1987. *Water Development for Los Angeles, competition for scarce resources*.

McMorris, Chris. Partner, JRP Historical Resource Consulting. Email communication September 15, 2009.

U.S. Department of the Interior, National Park Service, *National Register Bulletin: How to Apply the National Register Criteria for Evaluation,* National Park Service, Washington, DC., 1995.

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

LOCATION MAP

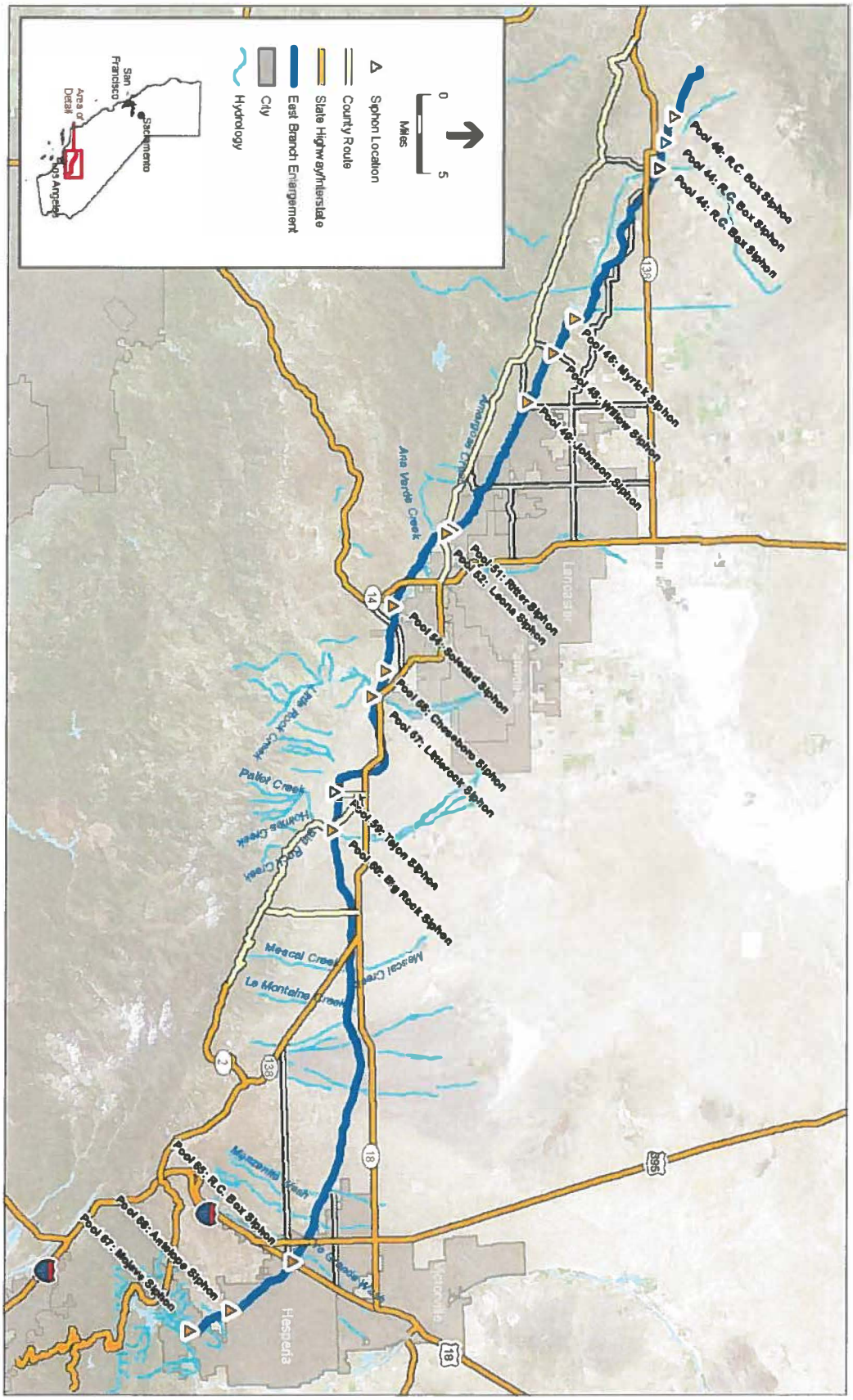
Primary # 36-021351
HRI#
Trinomial

*Resource Name or #: East Branch of the California Aqueduct (EBA)

*Map Name: Overview

*Scale:

*Date of Map: 2010

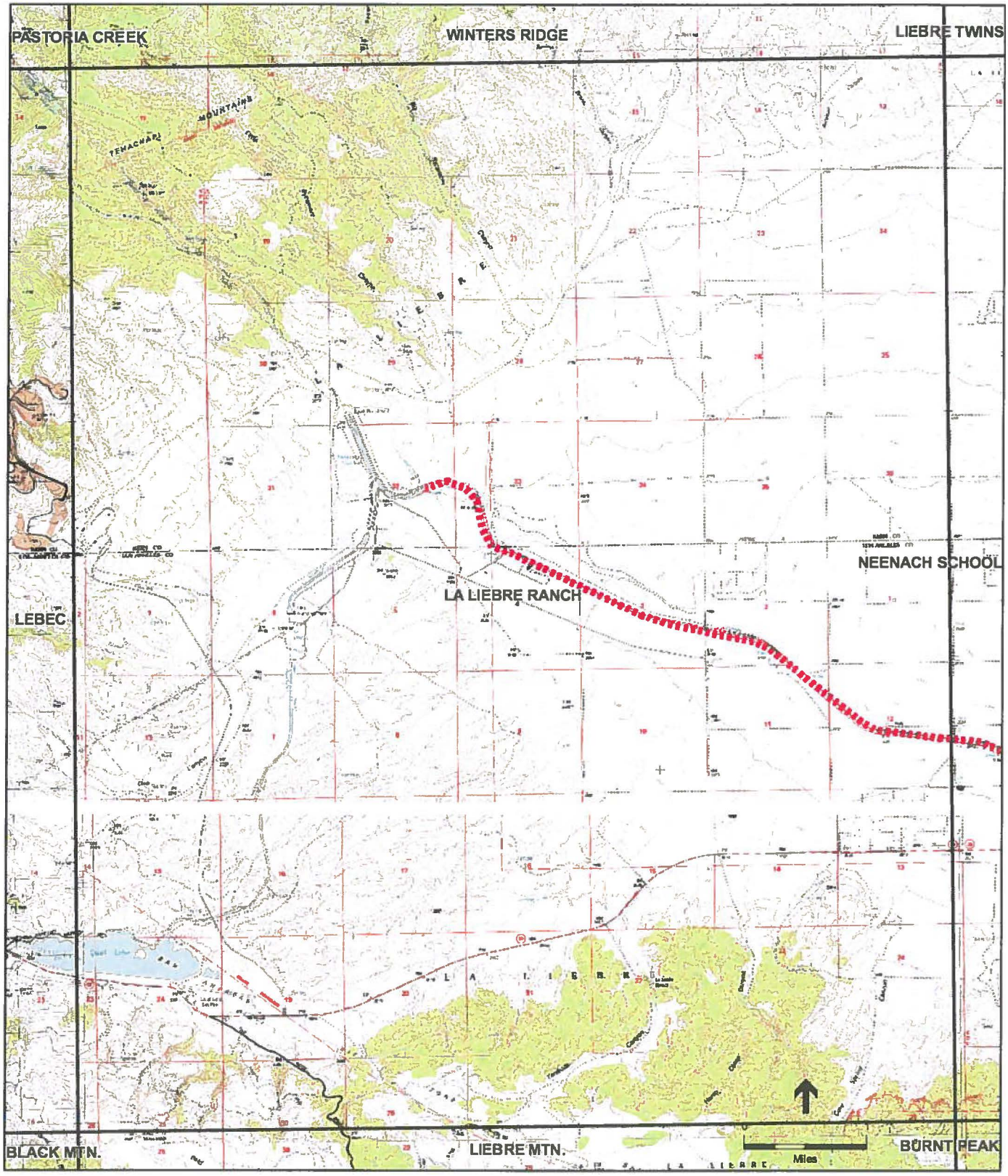


State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # 36-02135/
HRI #
Trinomial

Resource Name or Number: East Branch of the California Aqueduct

Map Name: La Liebre Ranch | Scale: 1:70,000 | Map Date: 1974



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

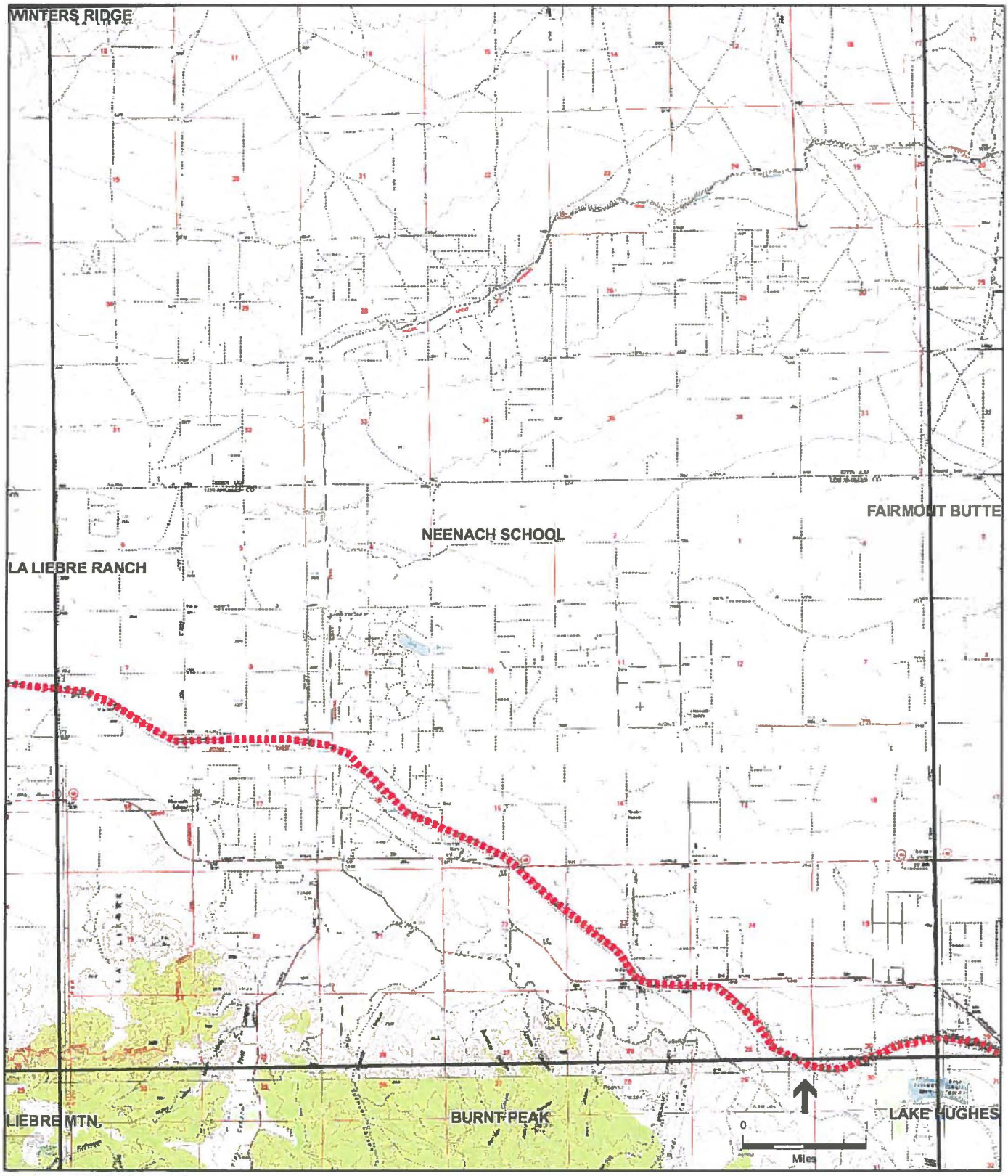
Primary # 36-021351
HRI #
Trinomial

Resource Name or Number: East Branch of the California Aqueduct

Map Name: Neenach School

Scale: 1:70,000

Map Date: 1974

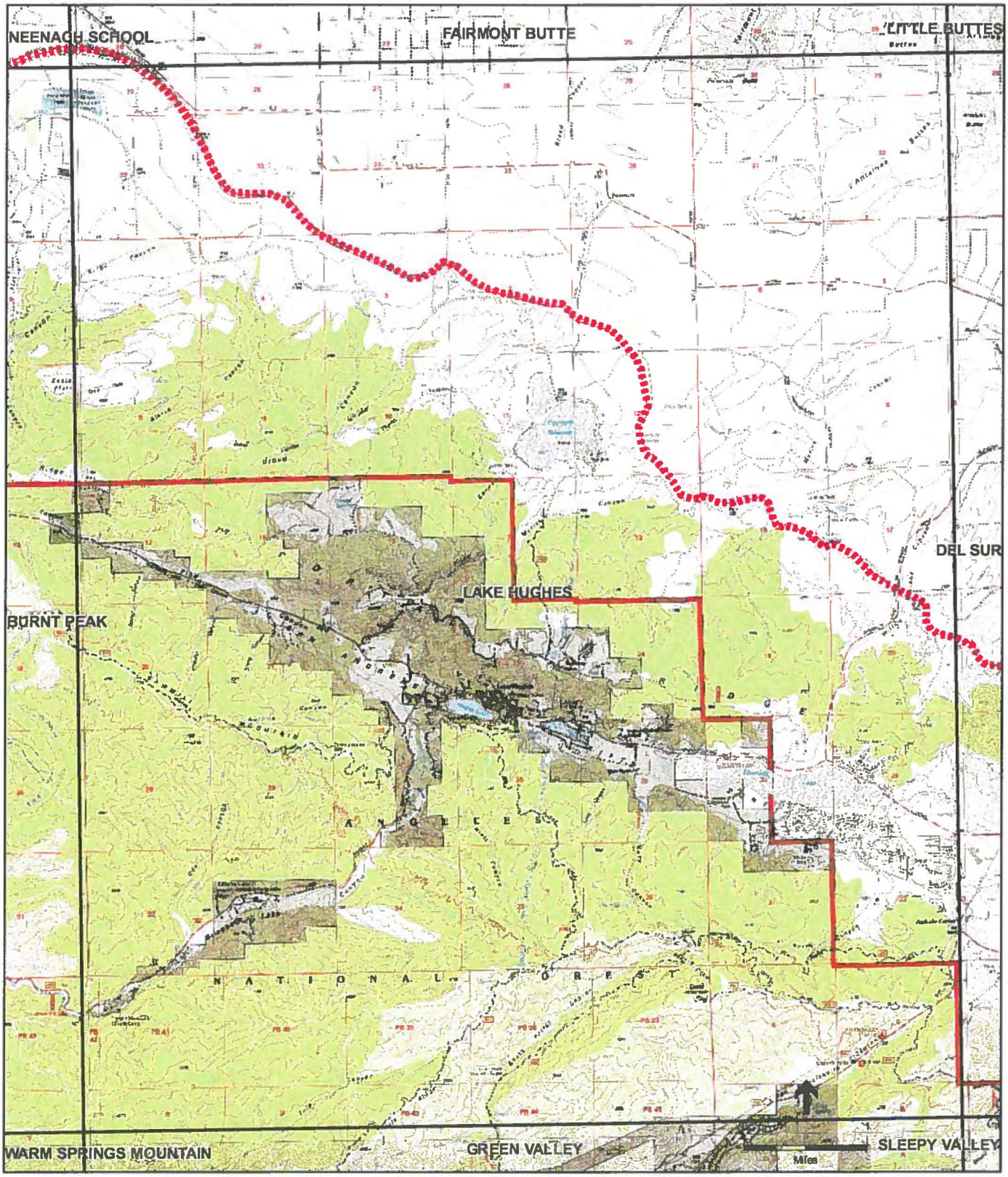


State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # 36-021351
HRI #
Trinomial

Resource Name or Number: East Branch of the California Aqueduct

Map Name: Lake Hughes Scale: 1:70,000 Map Date: 1974

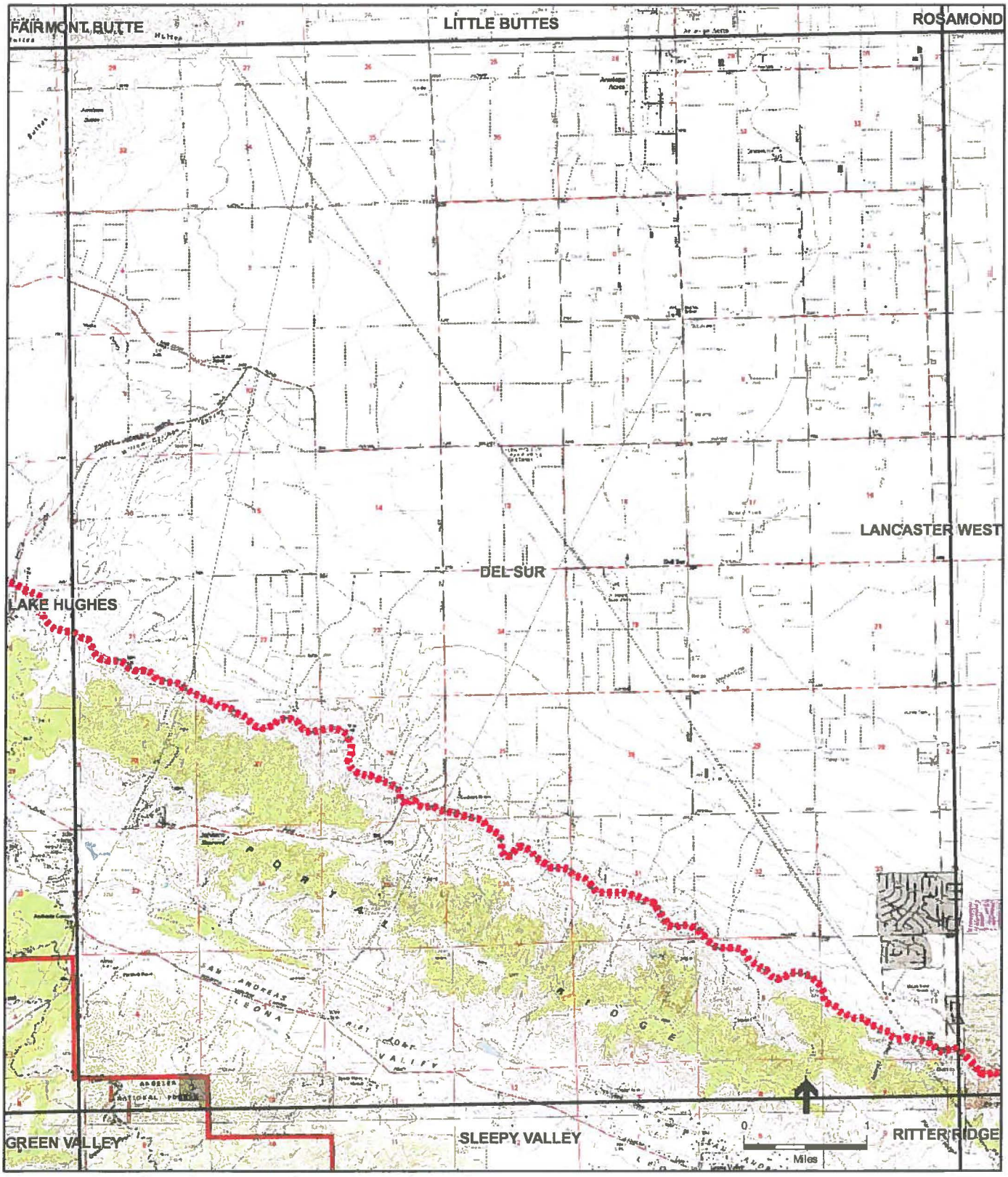


State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # 36-021351
HRI #
Trinomial

Resource Name or Number: East Branch of the California Aqueduct

Map Name: Del Sur **Scale: 1:70,000** **Map Date: 1974**



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

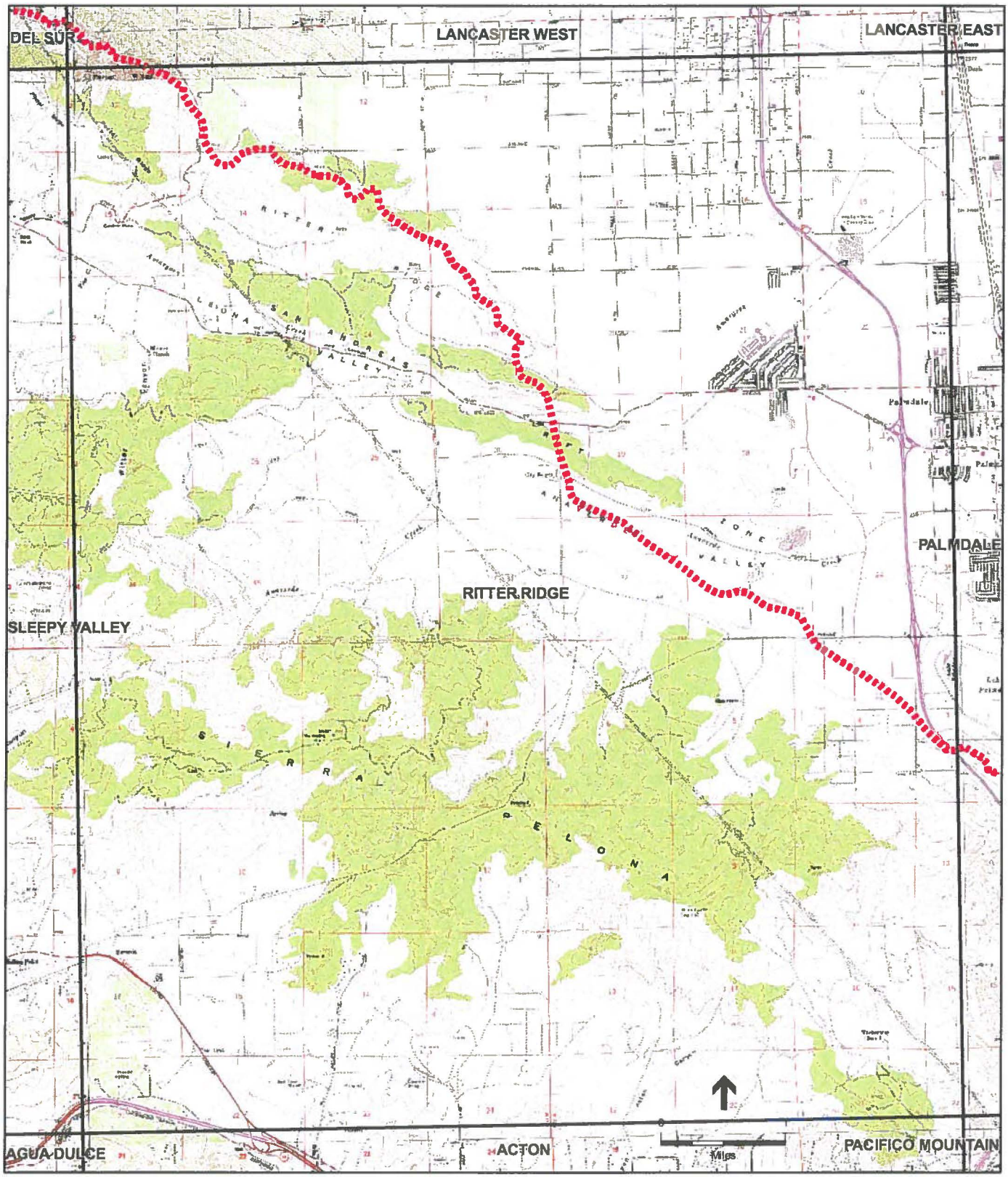
Primary # 36-021351
HRI #
Trinomial

Resource Name or Number: East Branch of the California Aqueduct

Map Name: Ritter Ridge

Scale: 1:70,000

Map Date: 1974



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

LOCATION MAP

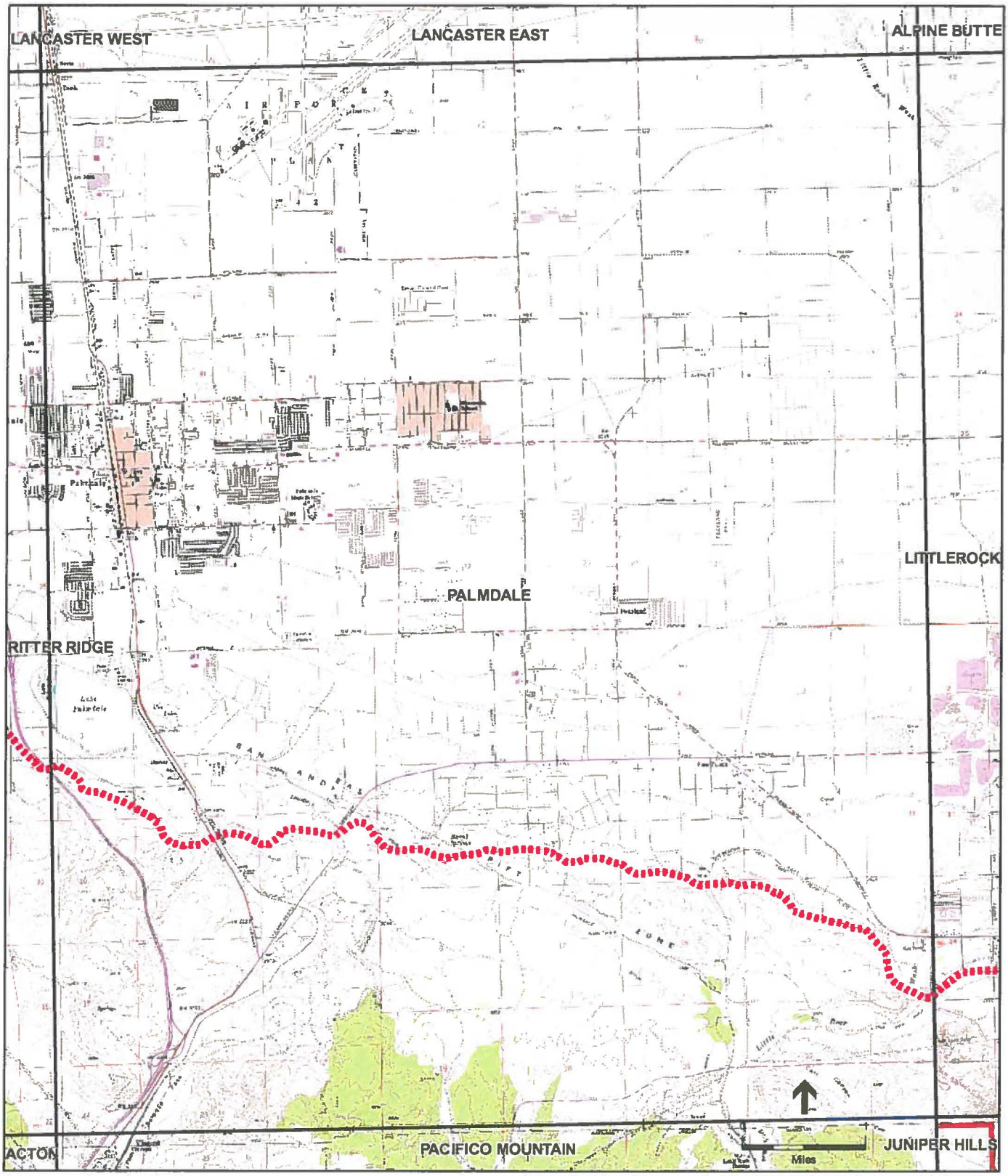
Primary # 36-021351
HRI #
Trinomial

Resource Name or Number: East Branch of the California Aqueduct

Map Name: Palmdale

Scale: 1:70,000

Map Date: 1974



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

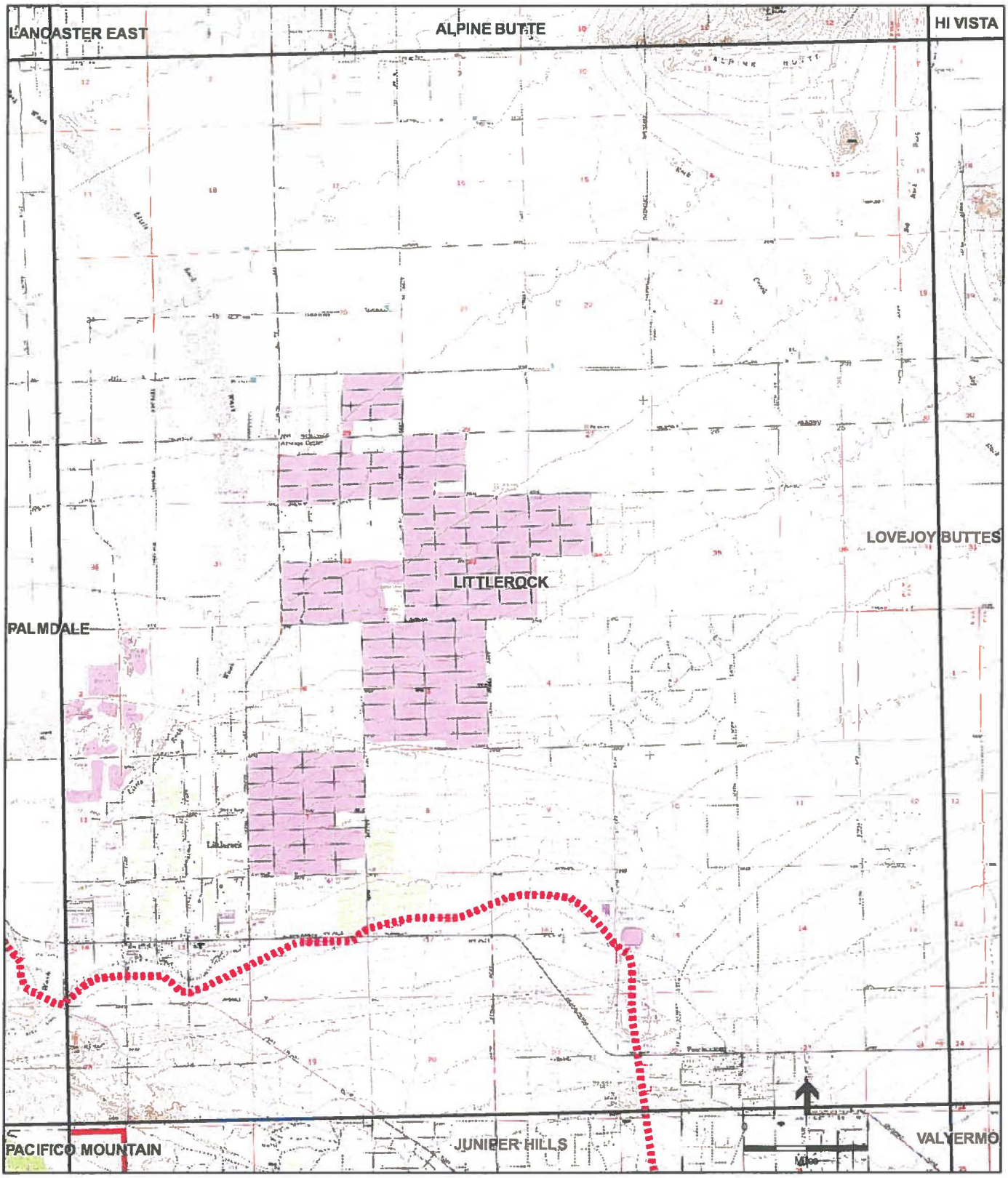
Primary # 36-021351
HRI #
Trinomial

Resource Name or Number: East Branch of the California Aqueduct

Map Name: Littlerock

Scale: 1:70,000

Map Date: 1992



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

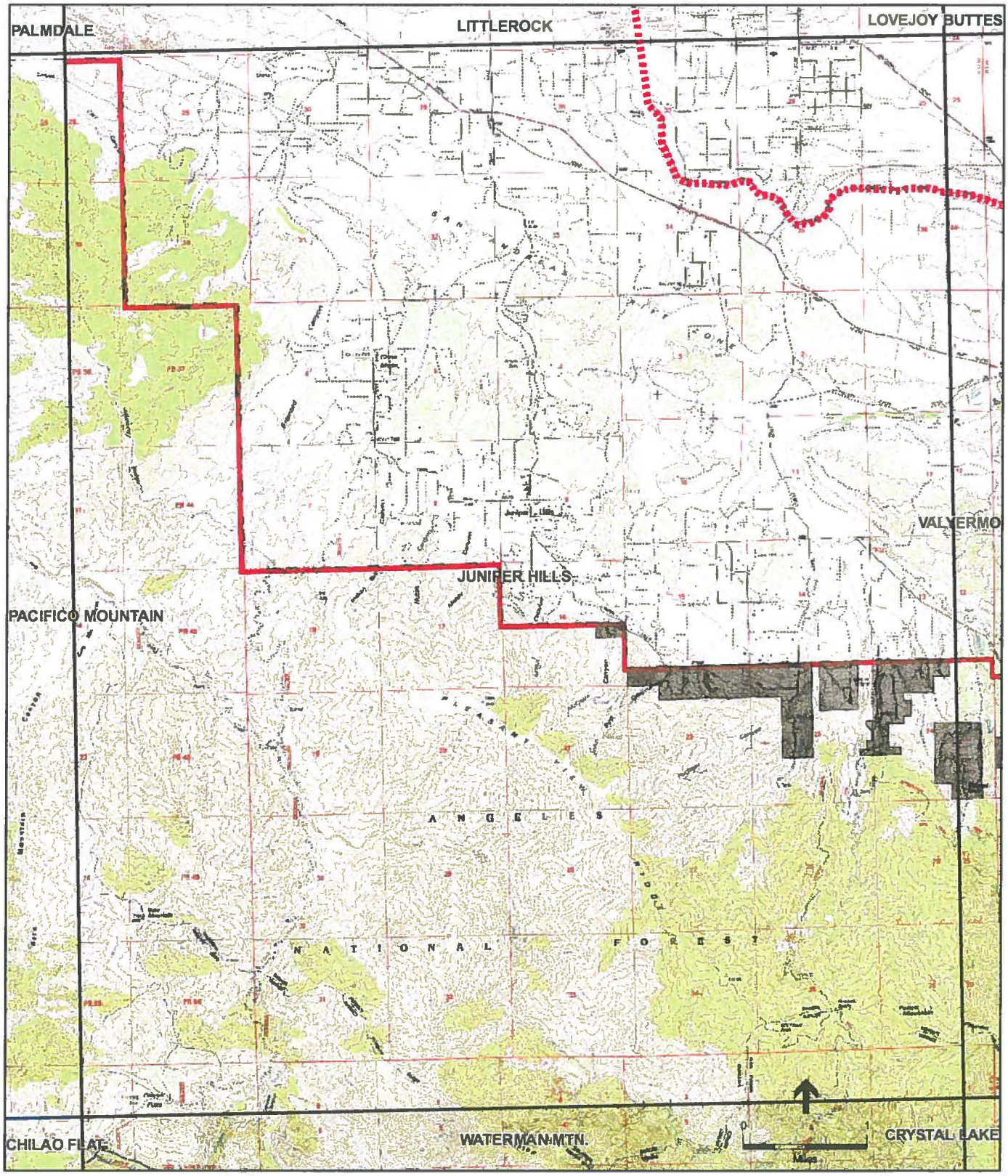
Primary # 36-021351
HRI #
Trinomial

Resource Name or Number: East Branch of the California Aqueduct

Map Name: Juniper Hills

Scale: 1:70,000

Map Date: 1988



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

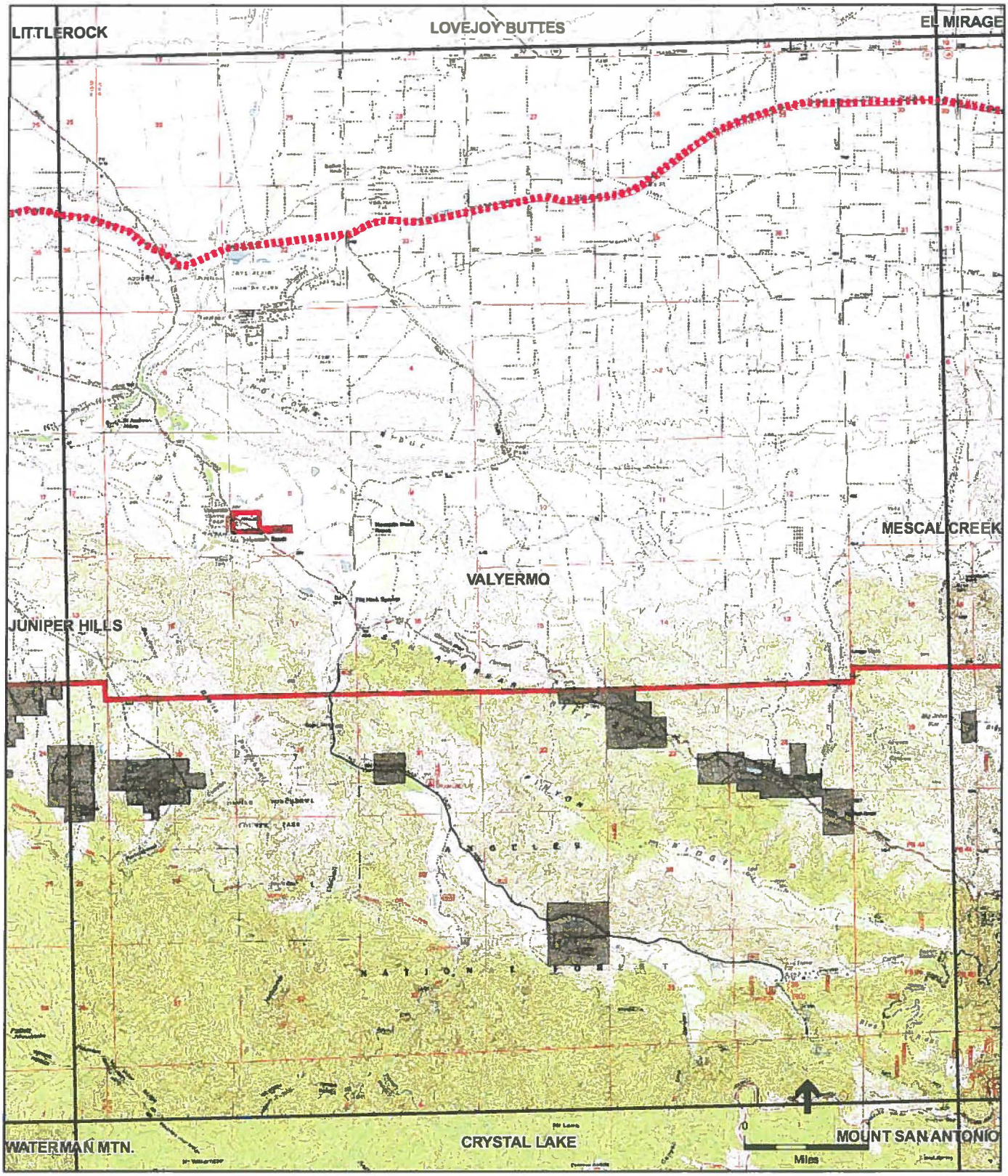
Primary # 36-021351
HRI #
Trinomial

Resource Name or Number: East Branch of the California Aqueduct

Map Name: Valyermo

Scale: 1:70,000

Map Date: 1988



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

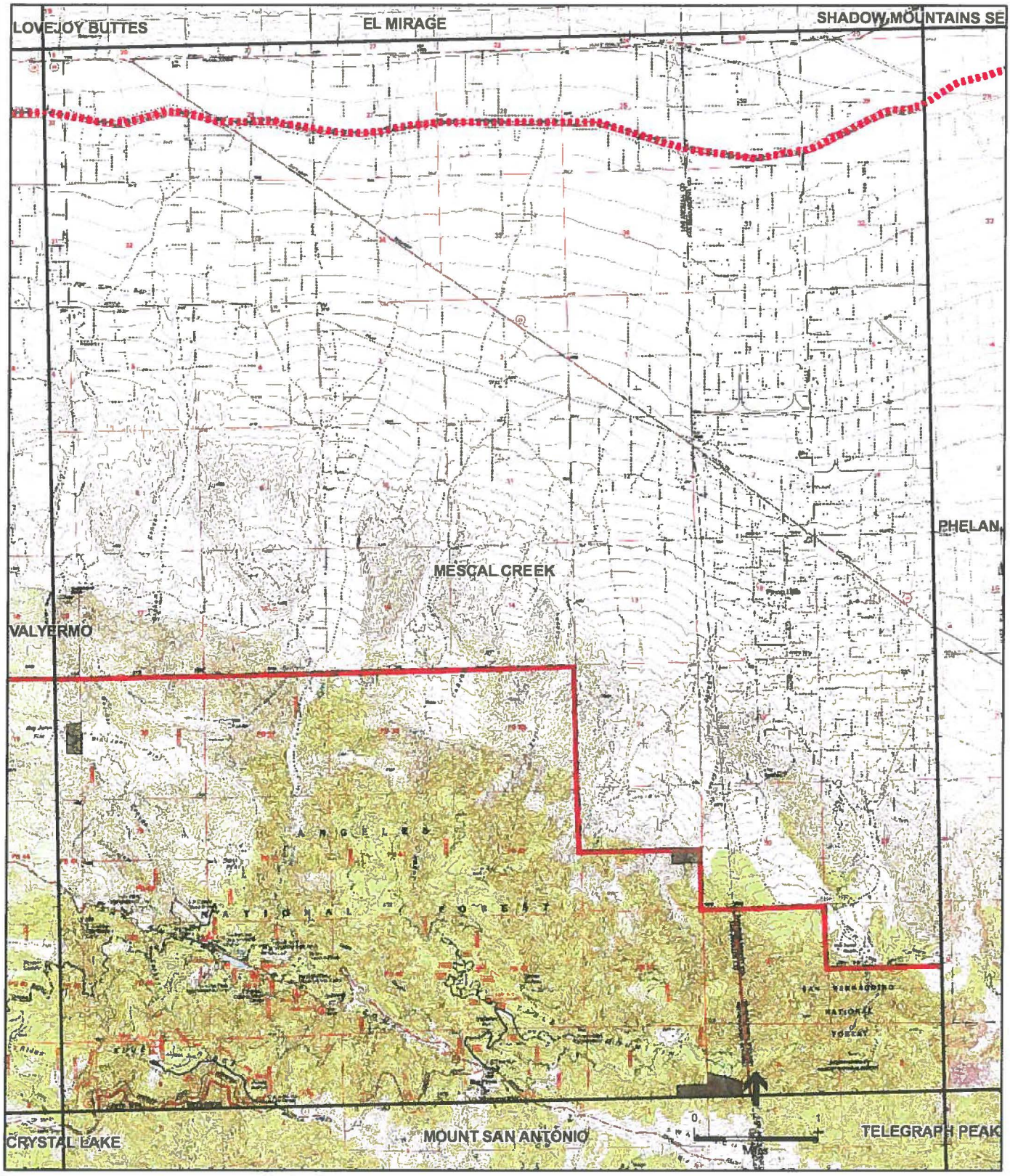
Primary # 36-021351
HRI #
Trinomial

Resource Name or Number: East Branch of the California Aqueduct

Map Name: Mescal Creek

Scale: 1:70,000

Map Date: 1988



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

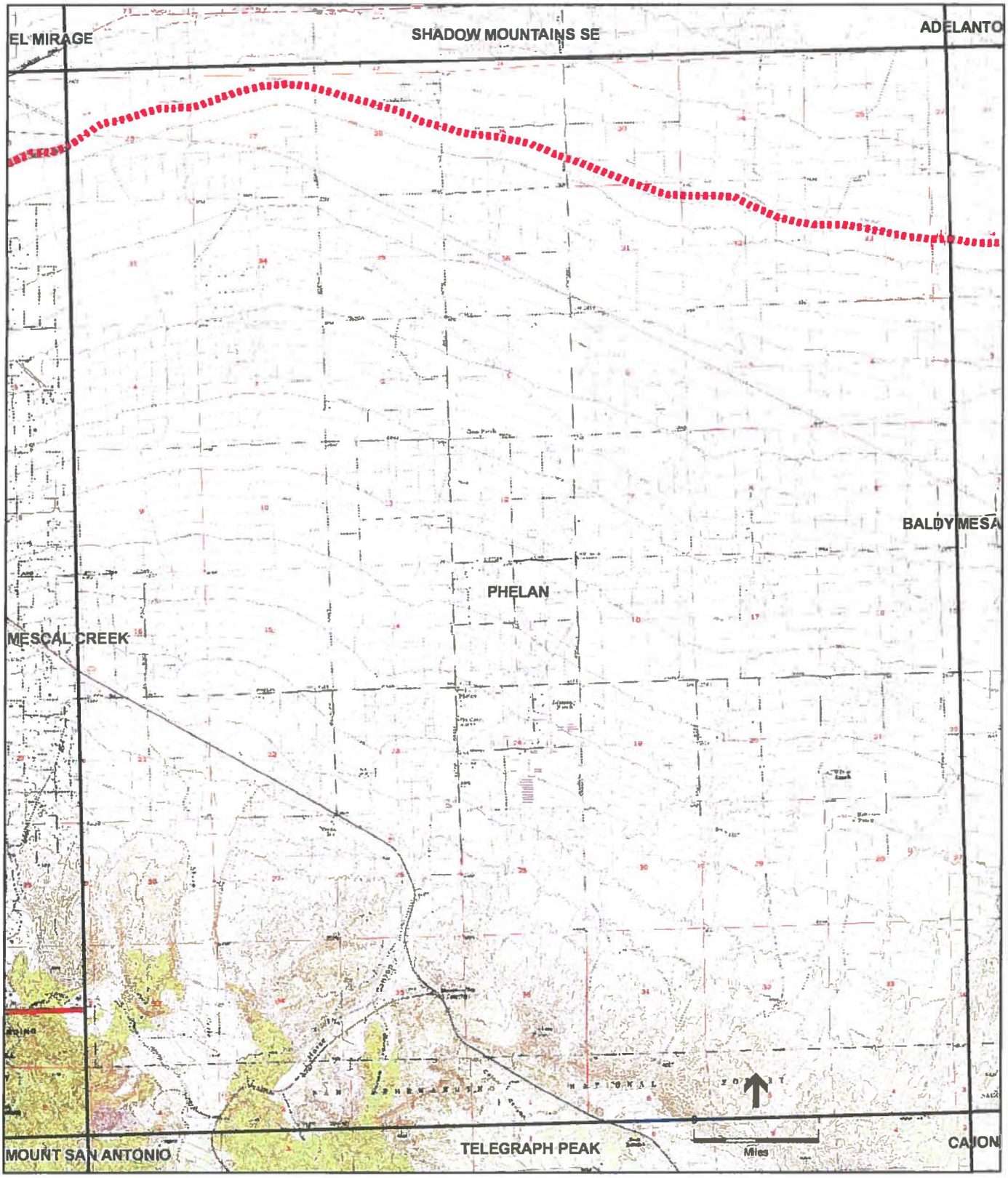
Primary # 36-021351
HRI #
Trinomial

Resource Name or Number: East Branch of the California Aqueduct

Map Name: Phelan

Scale: 1:70,000

Map Date: 1988



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

LOCATION MAP

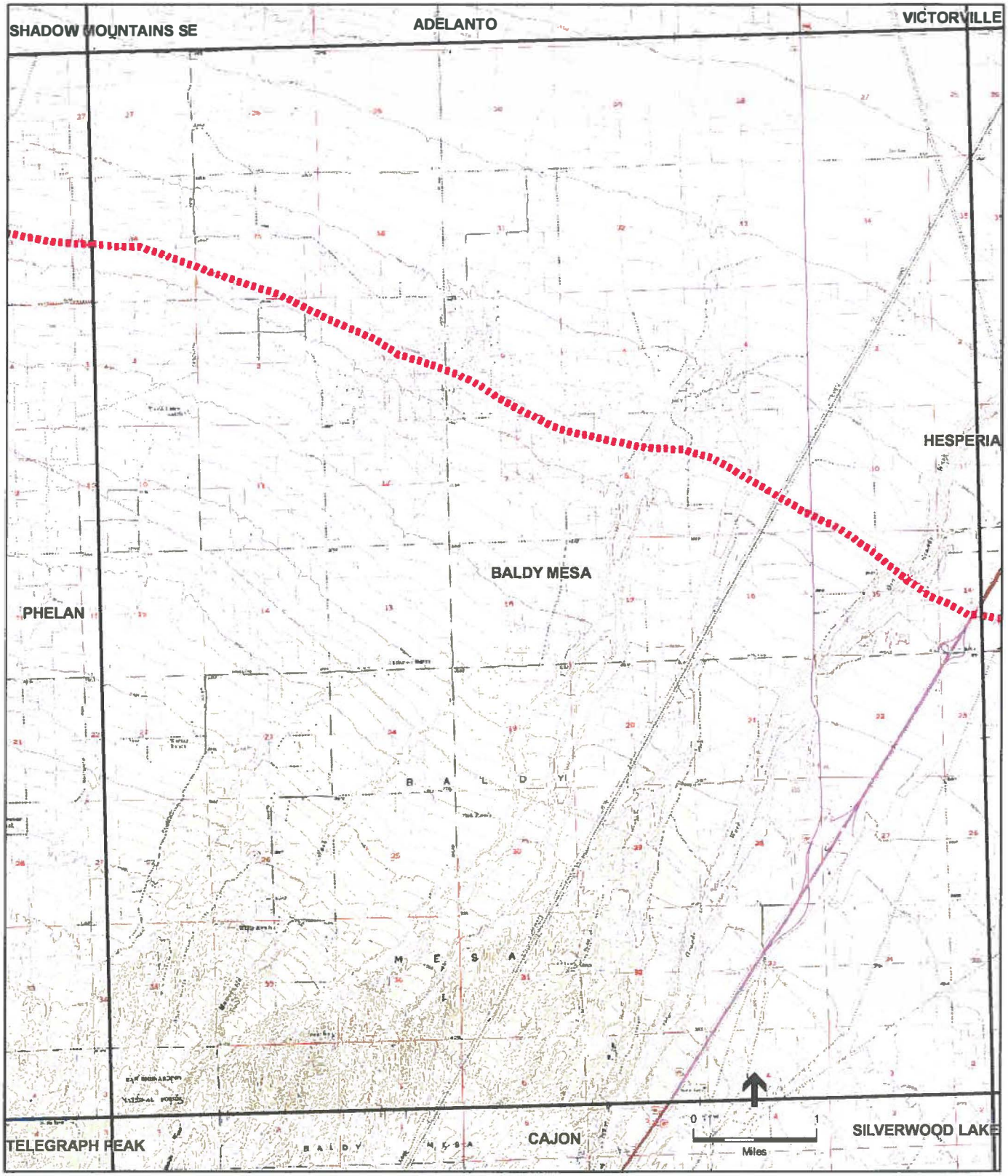
Primary # 36-021351
HRI #
Trinomial

Resource Name or Number: East Branch of the California Aqueduct

Map Name: Baldy Mesa

Scale: 1:70,000

Map Date: 1988



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

LOCATION MAP

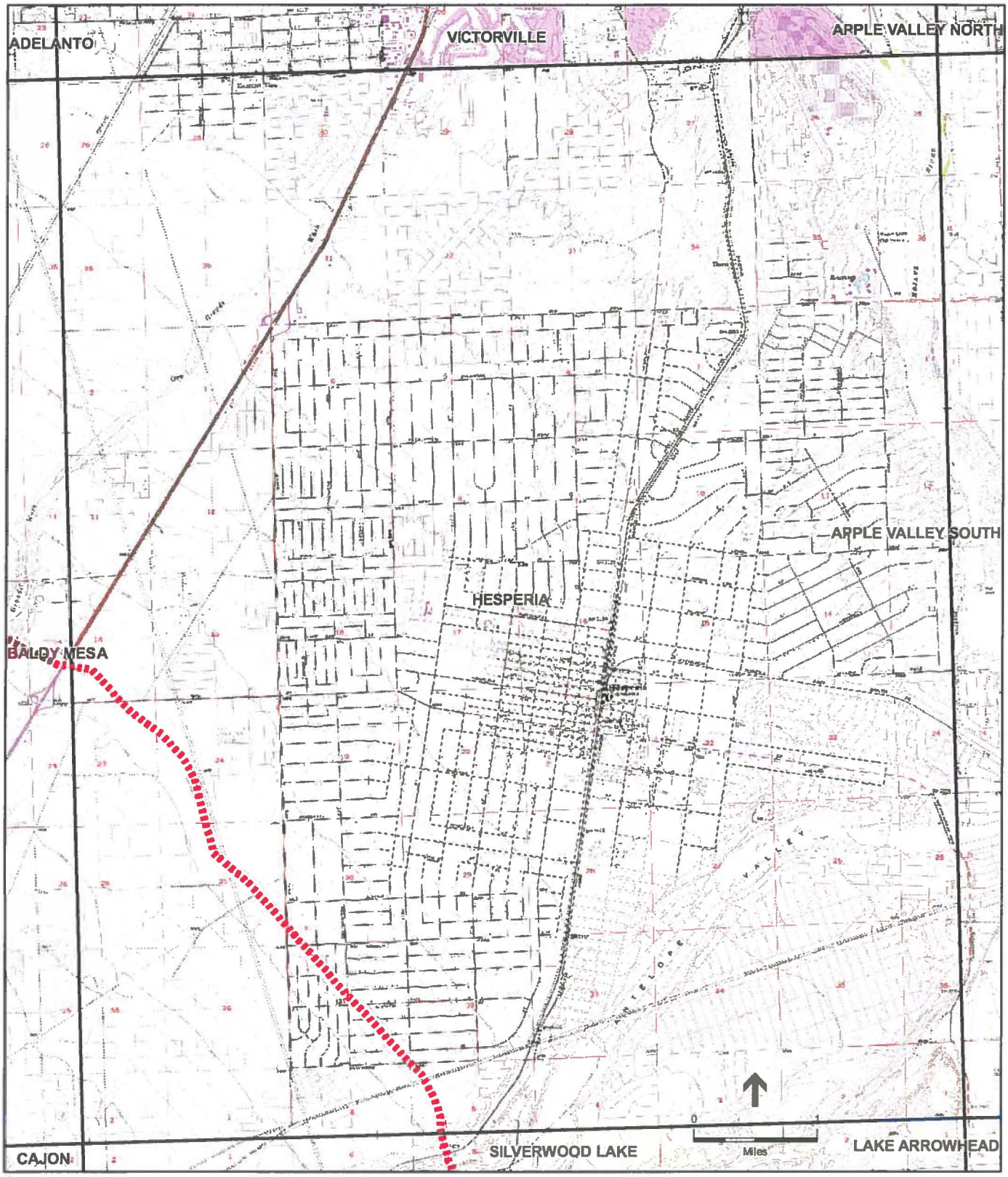
Primary # 36-021351
HRI #
Trinomial

Resource Name or Number: East Branch of the California Aqueduct

Map Name: Hesperia

Scale: 1:70,000

Map Date: 1980



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

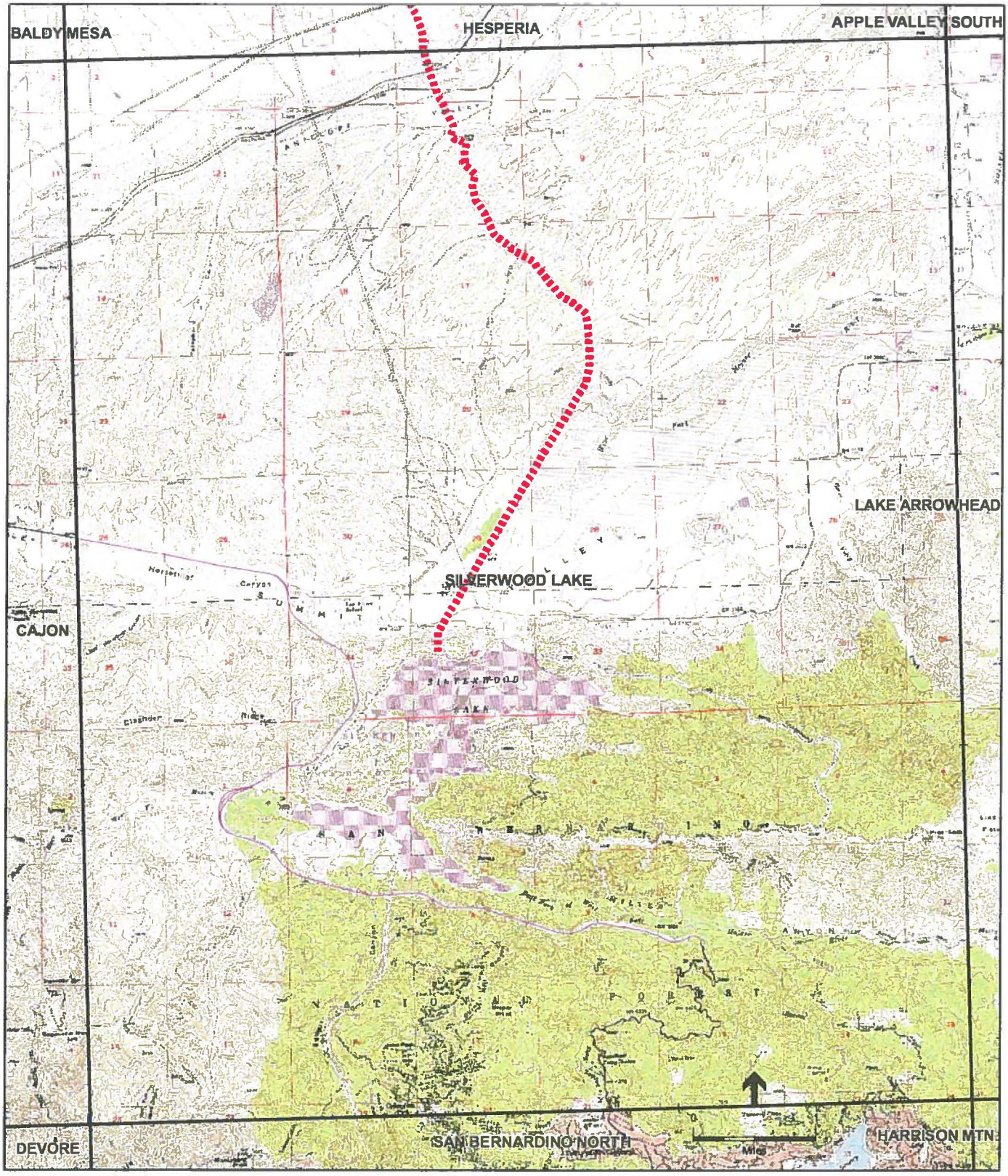
Primary # 36-021351
HRI #
Trinomial

Resource Name or Number: East Branch of the California Aqueduct

Map Name: Silverwood Lake

Scale: 1:70,000

Map Date: 1988



update 8/10

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

Primary# 36-002135/
HRI#
Trinomial
NRHP Status Code
Other Listings
Review Code Reviewer Date

Page 1 **of** 3 ***Resource Name or #:** (Assigned by recorder) CNX-19

P1. Other Identifier: Portion of the California Aqueduct
***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted**
***a. County:** San Bernardino
***b. USGS 7.5' Quad** Baldy Mesa **Date** 1988 **T** 4N; **R** 6W; NE ¼ **of** SE ¼ **of Sec** 1; S.B. **B.M.**
c. Address Baldy Mesa Rd **City** Victorville **Zip** 92392
d. UTM: (Give more than one for large and/or linear resources) Zone 11, 458598 mE/ 3813395 mN; 458535 mE/ 3813421 mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
Between CNX milepost 36-37, approximately 2.9 miles west of State Route 395. Nearest cross streets are Baldy Mesa Road and 5th Street. The canal crosses the area of direct impact for the CNX project approximately 0.25 miles north of milepost 36.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
CNX-19 is a portion of the California Aqueduct. The portion of the canal within the CNX APE consists of an open lined, trapezoidal canal, approximately 30 feet deep and 30 feet wide. At the top of its banks are sand and loose gravel. This portion of the California Aqueduct was built between 1961 and 1972. Access to the canal is restricted through a barbed wire fence. The canal travels beneath a non-historic period crossing along Baldy Mesa Road.

***P3b. Resource Attributes:** (List attributes and codes) ; HP20 – Canal/Aqueduct

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

P5b. Description of Photo: (view, date, accession #)
View to the North, August 2008

***P6. Date Constructed/Age and Source:** ☒Historic ☐Prehistoric ☐Both
1961 to 1972 per JRP/Caltrans 2000

***P7. Owner and Address:**
State of California

***P8. Recorded by:** (Name, affiliation, and address)
Jeremy Hollins – URS Corp.
1615 Murray Canyon Road, Suite 1000
San Diego, CA 92108-4314

***P9. Date Recorded:**
August 2008

***P10. Survey Type:** (Describe) Pedestrian Survey

***P11. Report Citation:**
(Cite survey report and other sources, or enter "none.")
Proposed Calnev Expansion Report, California Portion, San Bernardino County, CA, Architectural History Survey.

***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):

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
Primary # 36-021351
HRI #

BUILDING, STRUCTURE, AND OBJECT RECORD

 *NRHP Status Code 6Z
*Resource Name or # (Assigned by recorder) CNX-19
B1. Historic Name: N/A
B2. Common Name: Californina Aqueduct
B3. Original Use: Canal/Aqueduct
B4. Present Use: Canal/Aqueduct

*B5. Architectural Style: Engineering Structure
*B6. Construction History: (Construction date, alterations, and date of alterations)
Constructed between 1961 and 1972.
*B7. Moved? X No ____Yes ____Unknown Date: _____ Original Location: _____
*B8. Related Features:
N/A

B9a. Architect: N/A b. Builder: N/A

*B10. Significance: Theme N/A Area Victorville, San Bernardino County
Period of Significance N/A Property Type Canl;/Aqueduct
Applicable Criteria N/A (Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)
The historical significance of CNX-19 within the historic architecture APE was determined by applying the procedure and criteria for the *National Register of Historic Places* (NRHP), *California Register of Historical Resources* (CRHR), and the definition of a historical resource as defined by CEQA

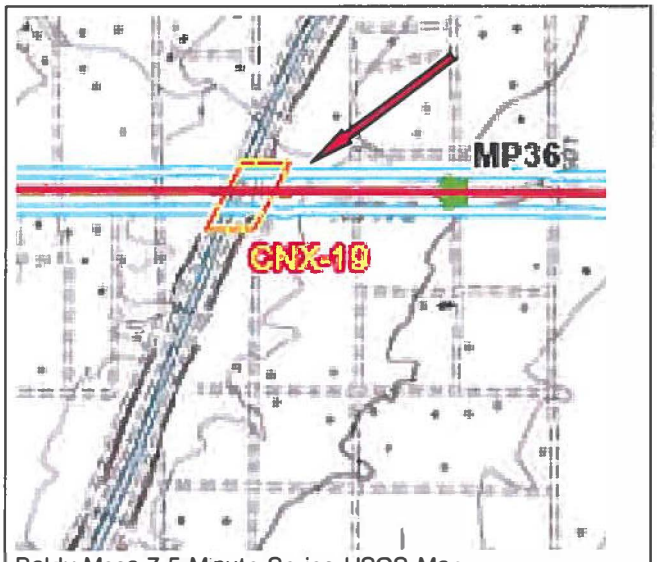
Based on site investigations and historic research, CNX-19 does not appear to possess the requisite significance to be eligible for listing on the NRHP and CRHR or be considered a historical resource for purposes of CEQA.

(See Continuation Sheet)

B11. Additional Resource Attributes: (List attributes and codes)
*B12. References:
JRP Historical Consulting and Caltrans. "Water Conveyance Systems in California." December 2000
Baldy Mesa 7.5-Minute Series USGS Map 1956, 1988.

(See Continuation Sheet)

B13. Remarks:
*B14. Evaluator: Jeremy Hollins - URS Corporation
*Date of Evaluation: September 2008



Baldy Mesa 7.5-Minute Series USGS Map

(This space reserved for official comments.)

← N

***B10. Continued**

The portion of the California Aqueduct within the area of direct impact for the CNX project is part of a larger 444-mile long water conveyance system that travels from the Sacramento-San Joaquin Valley River Delta to Riverside County. As part of the CNX project, only the portion of the aqueduct within the APE was identified, and accordingly, formal recordation of the entire California Aqueduct was not considered to be necessary (and outside of the project scope). The portion of the aqueduct which transverses the bridge was recorded and studied within the context of the whole property only.

The California Aqueduct was constructed as part of the massive State Water Project, which also included the Feather River Project Dams at Oroville and Thermalito, and branch canals stretching from the northern foothills of the Sierra Nevada to San Diego County. The project was authorized by the state legislature in 1951, and the California Aqueduct was constructed between 1961 and 1972. The design of the canal was similar to the canals constructed as part of the earlier Central Valley Project in 1935.

The portion of the California Aqueduct within the CNX APE does not appear to be 50 years old and, therefore does not appear to be individually eligible or eligible as a contributing resource to a larger resource (such as the entire California Aqueduct or State Water Project System). The portion of the aqueduct within the CNX APE also does not appear to possess the exceptional significance to qualify for listing to the NRHP under Criterion Consideration G: Properties That Have Achieved Significance within the Last 50 Years. Further, the addition of a pipeline to the exterior of a non-historic period aqueduct crossing on Baldy Mesa Road would not create a new adverse effect or significant impact to CNX-19.