

APPENDIX C

CULTURAL RESOURCES INVENTORY AND EVALUATION REPORT
LOS RIOS COMMUNITY COLLEGE DISTRICT NATOMAS CENTER
PARKING LOT EXPANSION AND PHASE 2 AND 3 PROJECT BUILDOUT
SACRAMENTO COUNTY, CALIFORNIA



Prepared for:

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and

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USGS 7.5' Taylor Monument, California
APE covers 10.67 Acres, T. 9 North, R.4 East

MANAGEMENT SUMMARY

The Los Rios Community College District (the District) proposes to construct the Natomas Center Parking Lot Expansion and Phase 2 and 3 Project (the “Project”) at the Natomas Center Campus in Natomas, Sacramento County, California. The Project’s Area of Potential Effects (APE) is located at the intersection of Del Paso Road and Via Ingoglia, east of Interstate 5. The proposed Project includes a new instruction facility adjacent to the existing American River College Natomas Center building. The District is also proposing to add a new parking area for the campus and new buildings and structures (Phase 2, and 3) to the east of Phase I campus buildings with the entire Project APE encompassing approximately 10.67 acres.

Waters of the United States (seasonal wetlands) have been identified within the APE necessitating a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers. Consequently, the Project is subject to the National Environmental Policy Act, and Section 106 of the National Historic Preservation Act (Section 106). In addition, the project is subject the California Environmental Quality Act (CEQA), and an Initial Study/Mitigated Negative Declaration will be developed. In order to aid in the compliance with Section 106 and CEQA, Petralogix Engineering, Inc. contracted with Solano Archaeological Services (SAS) to identify historic properties within the APE that could be subject to project-related adverse effects, and so that any Project planning could include avoidance or mitigation measures as necessary. SAS was tasked with updating information on previously-documented sites and features within the APE, identifying previously undocumented cultural resources, and evaluating potentially affected resources per National Register of Historic Places (NRHP), and California Register of Historical Resources criteria.

A records search conducted through the California Historical Resources Information System and additional archival research indicated that one previously identified historic-era resource (a drainage ditch) was located within the APE and that the APE was contained within an NRHP-listed Historic District (Reclamation District 1000 [RD 1000]). Outreach to the Native American community did not result in the identification of any culturally significant properties within or near the APE. A survey conducted by SAS updated existing documentation on the drainage ditch and RD 1000. SAS recommended that the ditch does not retain historic integrity and that the APE is not a contributing element to the RD 1000 Historic District. Consequently, the proposed Project would have no effect on historic properties per Section 106 or historical resources per CEQA.

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1.0 Introduction

The Los Rios Community College District (the District) proposes to construct the Natomas Center Parking Lot Expansion and Phase 2 and 3 Project (the “Project”) at the Natomas Center Campus in Natomas, Sacramento County, California (Figure 1). The proposed Project includes a new instruction facility adjacent to the existing American River College Natomas Center building. The District is also proposing to add a new parking area for the campus and new buildings and structures (Phase 2, and 3) to the east of Phase I campus buildings with the entire Project Area of Potential Effects (APE) encompassing about 10.67 acres.

Waters of the United States (a seasonal wetland) have been identified within the APE necessitating a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers (Corps). Consequently, the Project is subject to the National Environmental Policy Act, and Section 106 of the National Historic Preservation Act (NHPA or “Section 106”). The project is also subject to the California Environmental Quality Act (CEQA) and an Initial Study/Mitigated Negative Declaration will be developed. In order to aid in the compliance with Section 106 and CEQA, Petralogix Engineering, Inc. contracted with Solano Archaeological Services (SAS) to identify cultural resources within the APE that could be subject to project-related adverse effects, and so that any Project planning could include avoidance or mitigation measures as necessary. SAS was tasked with updating information on previously-documented sites and features within the APE, identifying previously undocumented cultural resources, and evaluating potentially affected resources per National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR) criteria. This investigation was directed by Mr. Jason Coleman, M.A., RPA, SAS President (Appendix A).

1.1 Project Location

The APE is situated in two discontinuous parcels on the *Taylor Monument, California*, U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (Figure 2). The APE is located at the intersection of Del Paso Road and Vi Ingoglia, approximately 4,000 feet (ft.) east of Interstate 5 in Township 9 North, Range 4 East, sections 2, and 11. The APE is bounded in large part by commercial developments and District facilities with presently undeveloped open space and agricultural lands being located to the north of the larger of the two APE parcels (Figure 3).

1.2 Project Description

The proposed Project includes a new 31,077 assignable square ft. (asf) (49,800 gross square ft.) instructional facility adjacent to the existing American River College Natomas Center building. The new building provides ADA access compliance and adequate HVAC, power, technology, and lighting systems to support a variety of instructional programs. This includes 5,610 asf of lecture space, 16,441 asf of lab space and 9,026 asf of office/admin and miscellaneous support space.

In addition, the Los Rios Community College District is proposing to add a new parking area to the existing Natomas Center campus. The location of the new parking will be just west of the existing campus and across the street (west of Via Ingoglia) (Appendix B) Only a portion of this parcel (Assessor Parcel Number 225-0040-089-0000) will be used for the parking. The overall parcel is 10.67 acres in size. The final parking configuration will allow for an additional 564 parking stalls. The Phase 2 and 3 buildout will include new buildings and associated structures to the east of Phase 1 campus buildings. The location of the proposed construction and the outline of the parcels are also depicted in maps provided in Appendix B.

1.3 Area of Potential Effects

The APE has been established to encompass the maximum limits of potential ground-disturbing activities that would reasonably be expected from the proposed project, including but not limited to, all existing parcels, potential access routes, and equipment staging and laydown areas. The entire APE is subject to grading and other ground-disturbances associated with the implementation of the Project and related utilities and storm water treatment infrastructure. The vertical APE would extend to no more than approximately six feet below the present-day grade to accommodate the installation of various utilities, stormwater drainage features, and the construction of the District buildings and parking facility.



Figure1. Project Vicinity Map.

● Natomas Center Project Area

Sources: *USA Base Map* [layer], *Data and Maps* [CD]. ESRI, 2006.

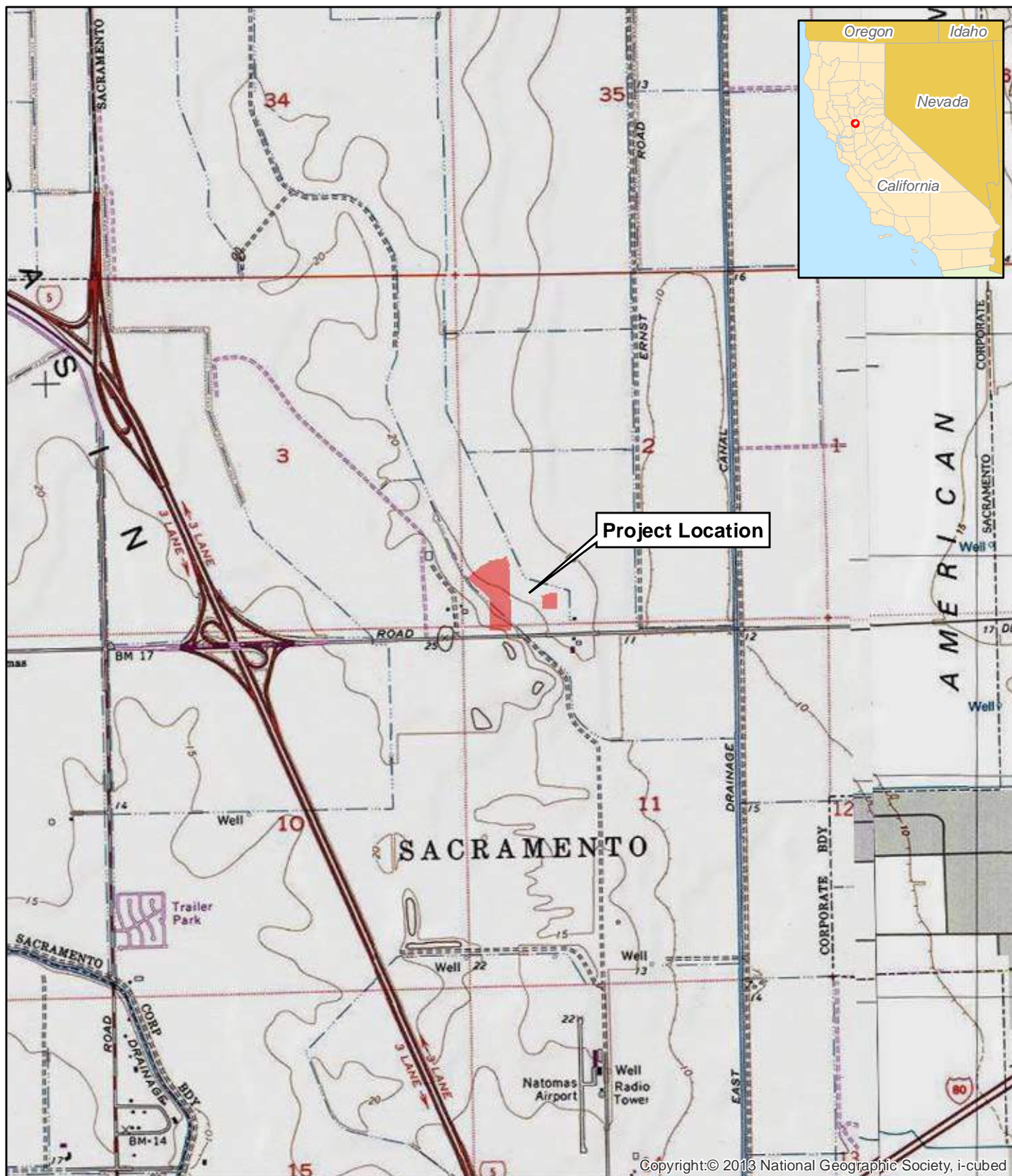


1:250,000

0 3 Miles

0 6 Kilometers





1:24,000

0.5

☐ Miles

1

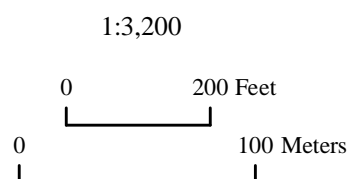
☐ Kilometers



Figure 3. Project Area Map.

■ Natomas Center Project Area

Total Acreage = 10.67



1.4 Regulatory Context

Section 106 of the National Historic Preservation Act

This cultural resources inventory and evaluation effort was conducted by SAS to comply with Section 106 of the NHPA and its implementing regulations in Title 36, Code of Federal Regulations Part 800 (36 CFR 800). Projects that take place on federal property, or involve federal funding or permitting fall under the jurisdiction of Section 106.

This report addresses the identification of any discovered historic properties (cultural resources listed or recommended for listing on the NRHP) in the APE. As defined by Section 106, historic properties can include historic-era sites, structures, buildings, districts, and objects older than 50 years that are eligible, or potentially eligible, for listing on the NRHP. The Section 106 process mandates that foreseeable significant impacts to resources eligible for NRHP listing must be mitigated.

The NRHP is a register of historic properties that includes districts, sites, buildings, structures, and objects of significance in American history, architecture, archaeology, engineering, and culture. The regulations provided in 36 CFR Part 60.4 describe the criteria to evaluate cultural resources for inclusion in the NRHP. Historic properties can be significant on the national, state, or local level. Properties may be listed in the NRHP if they possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

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

Most prehistoric archaeological sites are evaluated with regard to Criterion D of the NRHP, which refers to site data potential. Such sites typically lack historical documentation that might otherwise adequately describe their important characteristics. Archaeological methods and techniques are applied to gain an understanding of the types of information that may be recovered from the deposits. Data sought are those recognized to be applicable to scientific research questions or to other cultural values.

Site integrity is also a consideration for the NRHP eligibility of an archaeological locale. The aspects of integrity include location, setting, design, workmanship, feeling, and association. These may be compromised to some extent by cultural and post-depositional factors (e.g., highway construction, erosion, bioturbation, etc.), yet the resource may still retain its integrity for NRHP eligibility depending on the impacts the site has sustained.

California Environmental Quality Act

CEQA offers guidelines regarding impacts to historic and prehistoric cultural resources. CEQA states that if implementation of a project would result in significant impacts to important cultural resources, then alternative plans or mitigation measures must be considered. However, only significant cultural resources need to be addressed. State CEQA Guidelines define a “historical resource” as “a resource listed or eligible for listing on the CRHR (Public Resources Code 5024.1). A resource may be eligible for listing on the CRHR if it:

- 1) is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage; or

- 2) is associated with the lives of persons important in our past; or
- 3) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possess high artistic values; or
- 4) has yielded, or may be likely to yield, information important in prehistory or history.

The CEQA Guidelines also require the consideration of unique archaeological sites (Section 15064.5). If an archaeological site does not meet the criteria for inclusion on the CRHR but does meet the definition of a unique archaeological resource as outlined in the Public Resources Code (Section 21083.2), it may be treated as a significant historical resource. Treatment options under Section 21083.2 of CEQA include activities that preserve such resources in place in an undisturbed state. Other acceptable methods of mitigation under 21083.2 include excavation and curation, or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more criteria for defining a “unique archaeological resource”):

For historic buildings, Section 15064.5(b)(3) of the CEQA Guidelines indicates that a project that follows the Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, or the Secretary of the Interior’s Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995), shall mitigate impacts to a level of less than significant. Potential eligibility also rests upon the integrity of the resource. Integrity is defined as the retention of the resource’s physical identity that existed during its period of significance. Integrity is determined by considering the setting, design, workmanship, materials, location, feeling, and association of the resource.

2.0 NATURAL AND CULTURAL SETTING

2.1 Natural Environment

The APE and vicinity are located in the Central Valley (also known as the Great Valley or Great Central Valley), an elongated depression between the Coast Ranges and the Sierra Nevada. The APE is essentially level and is at an elevation of approximately 10 ft. above mean sea level. The majority of the APE consists of open leveled fields supporting small areas of seasonal wetland vegetation. The Central Valley was formed during the Quaternary Period, the most recent of the three periods of the Cenozoic era. The Cenozoic geological occurrences are the most important to the Central Valley in terms of the fresh water aquifer formations that make the valley an ideal location for farming and ranching (California Department of Water Resources 2019).

Specifically, the APE is situated in the Sacramento Valley, a region of the greater Central Valley, and contains sediments deposited from the Sierra Nevada Mountain range. The climatic pattern in the APE and surrounding region is characterized as Mediterranean, with cool, wet winters and hot, dry summers. Soil studies suggest that the general climate may have been wetter in the past (Tanksley 2003). However, periods of persistent drought in California occurred between A.D. 912–1112 and A.D. 1210–1350. Shorter drought periods have also been documented over the last 2,000 years based on dendrochronology, soil core borings, and other methods.

2.2 Prehistoric Context

Although attempts to classify the prehistoric cultural history of California date to at least the early decades of the 20th century, it was the later work of Beardsley that formed the basis for sequences used today. Based on documenting artifact similarities among sites in the San Francisco Bay region and the Delta, Beardsley (1948, 1954) formatted his findings into a cultural model known as the Central California Taxonomic System (CCTS). This system proposed a linear, uniform sequence of cultural succession in Central

California, and defined Early, Middle, and Late horizons for cultural change. Archaeological researchers have subsequently refined and redefined aspects of the CCTS. For instance, Fredrickson (1973, 1974, and 1994) reviewed general economic, technological, and mortuary traits between archaeological assemblages across the region. He separated cultural, temporal, and spatial units from each other and assigned them to six chronological periods: Paleo-Indian (12,000–8,000 B.P.); Lower, Middle, and Upper Archaic (8,000 B.P.–1,500 B.P.) and Upper and Lower Emergent (1,500 B.P. – 200 B.P.). Fredrickson further defined three cultural patterns: The Windmill (named after research done by Lillard et al. 1939), the Berkeley, and the Augustine patterns to the Early, Middle, and Late horizons of the CCTS.

These patterns were defined to reflect the general sharing of lifeways within groups in a specific geographic region. The Windmill pattern of the Early Horizon includes cultural patterns dating from 5,000 – 3,000 B.P.; the Berkeley Pattern or the Middle Horizon (also known as the Cosumnes cultural pattern after Ragir 1972), included cultural patterns which date from 5,000 B.P. –1,500 B.P., and Augustine Pattern of the Late Horizon included the cultural patterns from 1,500 B.P. to the historic period.

Fredrickson's (1974) Paleo-Archaic-Emergent cultural sequence was redefined by Rosenthal et al. (2007). Rosenthal et al.'s recalibrated sequence is divided into three broad periods: The Paleoindian Period (13,550–10,550 B.P.); the three-staged Archaic period, consisting of the Lower Archaic 10,550–7,550 B.P.), Middle Archaic (7,550–2,550 B.P.), and Upper Archaic (2,550 cal. B.P.–2,100 B.P.); and the Emergent Period (2,100 B.P. to contact) (Rosenthal et al. 2007). The three divisions of the Archaic Period correspond to climate changes. This is the most recently developed sequence and is now commonly used to interpret Central California prehistory. The aforementioned periods are characterized by the following:

- Paleo-Indian Period: This period began when the first people began to enter what is now known as the California culture area. It was commonly believed these first people subsisted on big game and minimally processed foods, (i.e., hunters and gatherers), presumably with no trade networks, but more recent research indicates these people may have been more sedentary, relied on some processed foods, and traded (Rosenthal et al. 2007). Populations likely consisted of small groups traveling frequently to exploit plant and animal resources.
- Archaic Period: This period was characterized by an increase in plant exploitation for subsistence, more elaborate burial accoutrements, and increased trade network complexity (Bennyhoff and Fredrickson 1994). The three divisions that correspond to prehistoric climate change are characterized by the Lower, Middle, and Upper Archaic periods when climates alternated between cool and wet (Lower Archaic), drier and warmer (Middle Archaic), and then cooler and wetter again (Upper Archaic) (Rosenthal et al. 2007).

Based on climate change, manifestations of material culture, and various dating methods, the following discussion summarizes the cultural patterns and the different local developments that are represented in archaeological deposits specifically in the region surrounding the APE:

- Early Horizon/Windmill Pattern/Middle Archaic: The Windmill Pattern or the Early Horizon (as defined by Beardsley 1948), dates to the Middle Archaic (as defined by Rosenthal et al. 2007) and may be the most extensively studied of all the cultural patterns defined for the Central Valley. In fact, the similarity noted between elements of Windmill and materials from other sites may have been the catalyst for early archaeologists identifying the material cultural “blending” of groups in the Central Valley during this period. The temporal span for Windmill has been updated and reanalyzed several times in the archaeological literature (Fredrickson 1973, 1974; Heizer 1949; Moratto 1984; Ragir 1972). The origin date Windmill was originally proposed at being around 4,500 B.P. (Lillard et al. 1939; Ragir 1972) because the culture at 4,000 years ago appeared to have been fully developed and seemed to have been well integrated into the regional economic system.

Characteristics to identify the Windmill pattern have been presented by multiple authors over time (Fredrickson 1973, 1974; Heizer 1949; Moratto 1984; Ragir 1972).

- Middle Horizon/Berkeley Pattern/ Cosumnes Culture/Middle and Upper Archaic: The succeeding Middle Horizon, namely the Cosumnes Culture after Ragir (1972), the Berkeley Pattern after Fredrickson (1974), and absorbed into the Middle and Upper Archaic designations by Rosenthal et al. (2007) was first recognized at site CA-SAC-66. Further classification of the Middle Archaic (as defined by Rosenthal et al. 2007) into the foothill tradition and valley tradition helped to clarify the different types of cultural sequences which occurred in these time periods. Functional artifact assemblages consisting primarily of locally sourced flaked stone and groundstone cobbles characterize the foothills tradition, with very few trade goods. Sites that represent the valley tradition are much fewer in number, and are generally characterized by much more diverse subsistence practices and extended periods of sedentism.
- Late Horizon/Emergent Period/Augustine Pattern/Hotchkiss Culture: This era is identified as the Late Horizon (Beardsley 1948, 1954), the Hotchkiss Culture by (Ragir 1972), and the Augustine Pattern by Fredrickson (1974). It was used by people during the later Upper Archaic and Emergent Periods, as defined by Rosenthal et al. (2007) ranges in age from 1,450 B.P. to contact (dates vary between the different models of prehistory developed for the region). The Upper Archaic, as discussed above, corresponds with the late Holocene change in environmental conditions to a wetter and cooler climate. It is represented by more pronounced cultural diversity as reflected in diversity of burial posturing, artifact styles, and material culture.
- Contact Period: When the first European explorers entered regions of the Central Valley between 1772 and 1821, an estimated 100,000 people or 1/3 of the state's native population lived in the Central Valley (Moratto 1984:171). Contact with Europeans changed the cultural patterns of prehistoric populations. One way this is reflected in material culture is the appearance of the concept of monetary exchange. From about 800 to 500 years ago, there was an increase in local bead making industries in the Central Valley, evidenced by copious Olivella shell bead blanks in archaeological assemblages from sites of these periods (Rosenthal et al. 2007:159).

2.3 Ethnographic Context

The APE is within the ethnographic territory of the Patwin, a series of linguistically and culturally related groups who occupied a portion of the lower Sacramento Valley along the Sacramento River and north of Suisun Bay. Major sources of information on these groups include the works of Bennyhoff (1977); Johnson (1978); Kroeber (1925); McKern (1922, 1923); Powers (1877); and Work (1945).

The Patwin were politically organized into tribelets that consisted of one primary and several satellite villages. Each tribelet maintained its own autonomy and sense of territoriality. Villages were located along rivers and major creeks, often near the juncture with other waterways or in the vicinity of foothill settings (Kroeber 1932). In general, the Patwin territory was well watered which supported a wide variety of animal life available including Tule elk, deer, antelope, bear, various species of duck, geese, turtles and other small animals. While hunting and fishing were clearly important subsistence activities among the Patwin, as with many Native American groups throughout the region, their primary staple food was the acorn. Two species of valley oak acorns were utilized, hill, and mountain oak. The oak groves themselves were considered as "owned" communally by the particular tribelet (Kroeber 1932; Powers 1877).

One of the more distinctive aspects of the Patwin culture was the Kuksu or "big-head" dances cult system, also found in other tribes through much of north central California. Within each cult were secret societies, each with its own series of dances and mythologies centered on animal figures such as *Sede-Tsiak* (Old Man Coyote) or *Ketit* (Peregrine Falcon). The Patwin were unique in possessing three secret societies. In

the central California cult system, almost all groups possessed the Kuksu but the Patwin also had the “ghost dance” (*way saltu*) and *Hesi* societies (Krober 1932; 313). Each secret society engaged in specific spiritual activities. For example, the *way saltu* society stressed curing and shamanistic functions (Johnson 1978: 353-354, 364-365).

In general, Patwin life-ways remained unchanged throughout the latter prehistoric period and well into the early decades of the 19th century. However, as Euro-American traders, trappers, missionaries, and eventually miners and settlers came into more regular contact with the Patwin their culture was dramatically changed. Events such as the yellow fever epidemics of the 1833–1834 and the Gold Rush of the late 1840s and early 1850s virtually decimated the Patwin population and heavily marginalized the people. Today, the Patwin are reinvesting in their Native culture and traditions and once again constitute a thriving community within the broader present-day political and economic landscape.

2.4 Historic Context

Within the vicinity of the APE the dominant themes of historic-era development include early Euro-American settlement, agriculture, and transportation. The evolution of each of these pursuits is intricately intertwined and constitutes the basic foundations of historic settlement and economic and industrial activity in the region.

Early Settlement

Permanent Euro-American settlement in the Sacramento Valley began when the Spanish and subsequently colonial Mexican governments issued large land grants to various individuals, often in return for military or other services rendered to the government. One of the grantees was Swiss immigrant John Augustus Sutter who first settled on his 48,839-acre “Nueva (New) Helvetia” land grant. He established an agricultural and trading colony at New Helvetia (which in English means “New Switzerland” after Sutter’s home country) and built a substantial fort at the confluence of the Sacramento River and American River. The design of this outpost was influenced by Fort Vancouver, the principal trading station of the Columbia Department, operated by the Hudson’s Bay Company, which Sutter visited in 1838 before entering Alta California. From 1839 until January 1848, Sutter’s Fort served as a destination for immigrants coming into California and the present-day City of Sacramento initially grew up around the fort (Dillon 1967).

The early development of the City of Sacramento is directly attributable to the onslaught of gold seekers rushing to the Sierra Nevada foothills after the first notable discovery of gold in Coloma at Sutter’s sawmill in 1848. The little riverside settlement – now occupied by the “Old Sacramento” area, that served Sutter’s holdings in the region quickly took on the role of a gold rush port and staging area as ocean-going ships and riverboats used the Sacramento River to bring goods and passengers to the mines. Sutter’s son, John Jr., who joined his father in September 1848, laid out a grid of streets extending from the waterfront, and named the nascent town Sacramento. His plan established numbered streets running north to south, and lettered streets running east to west. Each block was divided into eight, 80-ft. x 150-ft. lots, four lots on either side of a central alley. By June 1849, there were 100 buildings in Sacramento, and by October the town had 2,000 permanent residents with up to another 5,000 passing through at any given time. The new town was centered on the embarcadero, or Front Street, and inland to the east along J Street. The Old Sacramento area represents a small fraction of the wharfs, warehouses, saloons, and retail shops that once crowded along the waterfront and J Street, the main avenue to the mines. Only in the years that followed did more specialized businesses replace the “general merchants” and shopkeepers of the early years (Brienes et al. 1981).

Agriculture

The development of agriculture within the Sacramento Valley and Sacramento County was dependent upon irrigation systems. The first was constructed in 1864 when James Moore completed a dam across Cache Creek and nine miles of canals that supplied water to the farmers of the county. A series of droughts in the

1860s necessitated the need for increasingly larger projects, however, it was not until the 20th century and implementation of the Central Valley Project that agriculture, aided by construction of a railroad network, vastly increased its contribution to the economic and subsequent political development of the Sacramento Valley. An important element of agricultural growth in the region was the establishment of the Reclamation District 1000 (RD 1000) in 1911 within which the APE has been mapped. RD 1000 was one of the first and largest of the districts in California and transformed over 55,000 acres of frequently inundated floodplain into productive agricultural land (Reclamation District 1000 2019).

Transportation

Early transportation routes within Sacramento County and nearby Yolo County date to the 1850s and the earliest of these roadways was the Benicia-Cache Creek Road. This road followed a route northeast to Cache Creek, then ran northeast from Cache Creek to Knight's Landing before turning south to Sacramento. A second route, near or along the present I-80 corridor was the Benicia-Sacramento Road, which may have originated as a stage road depicted on maps dating to the 1850s.

The first railroad established in the area was the California Pacific line, which expanded their operations from Davisville (Davis) north to Marysville by way of Woodland and Knights Landing in 1870 (Gregory 1913). Because of heavy losses, California Pacific sold their routes and operating control to the Central Pacific Railroad in 1871, with the Southern Pacific Railroad gaining control on the Central Pacific in 1884. Further restructuring of the railroad industry occurred in the 1980s when the Santa Fe and Southern Pacific Railroads merged to form the Santa Fe Southern Pacific Corporation which was absorbed by the Union Pacific Railroad in 1996.

3.0 Native American Consultation

On December 9th, 2019 SAS emailed a letter and a map depicting the APE to the Native American Heritage Commission (NAHC). The letter requested a search of the NAHC Sacred Lands File database for cultural resources within the APE, and a list of Native American tribal representatives and groups who might have an interest in, or concerns with the Project (see Appendix C for a record of all Native American community outreach correspondence). On December 13th, 2019, the NAHC replied via email stating that no culturally significant properties were known to be present within or near the APE. The NAHC also provided contact information for the following tribal organizations and representatives:

- Ms. Rhonda Morningstar Pope, Chair – Buena Vista Rancheria of Me-Wuk Indians
- Ms. Pamela Cubbler – Colfax-Todds Valley Consolidated Tribe
- Mr. Clyde Prout, Chair – Colfax-Todds Valley Consolidated Tribe
- Ms. Sara Dutschke-Setchwaelo, Chair – Ione Band of Miwok Indians
- Mr. Cosme Valdez, Chair – Nashville Enterprise Miwok-Maidu-Nishinam Tribe
- Ms. Regina Cuellar, Chair – Shingle Springs Band of Miwok Indians
- Mr. Grayson Coney, Cultural Director – Tsi Akim Maidu
- Mr. Don Ryberg, Chair – Tsi Akim Maidu
- Mr. Gene Whitehouse, Chair – United Auburn Indian Community of the Auburn Rancheria
- Mr. Raymond Hitchcock, Chair – Wilton Rancheria

On December 16th, 2019, SAS sent contact letters to each of the individuals and organizations listed above inquiring as to whether or not they had any knowledge of sensitive properties or cultural resources in or near the APE, and if they had any questions about, or concerns with the proposed project. Additionally, SAS emailed each individual and organization on December 23 and 30, 2019, asking them for information on possible unrecorded resources in the APE, and for project recommendations. As of the date of this report, no responses from the tribal representatives have been received. If significant correspondence regarding

the Project and the cultural resources investigation are provided at a later date, it will be provided in an amendment to this report.

4.0 RECORD SEARCH AND LITERATURE REVIEW RESULTS

4.1 Summary of Reviewed Sources and Findings

In order to determine if any previously documented cultural resources were located within the APE or in the vicinity, on December 11th, 2019, the North Central Information Center (NCIC) of the California Historical Resources Information System conducted a record search for the APE parcels. This search included an area 0.5-mile surrounding the APE boundaries (NCIC File No. 19-242) (Appendix D). This record search also identified previous cultural resources investigations that were conducted within the APE and in the 0.5-mile search area. The NCIC research included, but was not necessarily restricted to a review of the following sources:

- *National Register of Historic Places – Historic Properties Directory* (California Office of Historic Preservation);
- *California Register of Historic Places – Historic Properties Directory* (California Office of Historic Preservation);
- *California Historical Landmarks* (California Office of Historic Preservation);
- *California Points of Historical Interest* (California Office of Historic Preservation);
- *California Inventory of Historic Resources* (California Department of Parks and Recreation).

The results of the search indicated that one previously documented cultural resource was known to be present within the APE, one was adjacent, and two were outside the APE. In addition, the APE was documented entirely within RD 1000 (Table 1).

Table 1. Previously Identified Cultural Resources in and within 0.5-Mile of the APE

Site Designation(s)	Association	Description	Location
P-34-000014	Prehistoric	Isolated obsidian flake	Outside APE
P-34-000741	Historic-era	Del Paso Rd.	Adjacent to APE
P-34-001598	Historic-era	Bella Rose Apartments	Outside APE
P-34-005251	Historic-era	Reclamation District 1000	Surrounds APE
P-34-005260	Historic-era	Natomas Drainage Ditch	In APE

The NWIC record search also indicated that three cultural previous resources investigation occurred at least partially within the current Project APE. An additional 17 studies were conducted within the 0.5-mile search area (Table 2) (Appendix D).

Table 2. Previously Conducted Studies in and within 0.5-Mile of the APE

Study No.	Researcher	Study Title	Date	Location
000333	David Chavez	Cultural Resources Evaluation for the Natomas Area Circulation Improvements Project, Sacramento, California.	1987	Outside APE
000356	Peak & Associates	Cultural Resource Assessment for a Feasibility Study of Three 200-acre sites in Sacramento County, California.	1981	Outside APE
001725	Eleanor Derr	Pacific Bell Mobile Services: 4752 Arco Arena Blvd., Sacramento, Natomas Vicinity, Sac.	1999	Outside APE

Table 2. Previously Conducted Studies in and within 0.5-Mile of the APE

		County: Site #SA-NSC-M1.		
001729	Wohlgemuth and McGuire	Letter Report for the Adams Farms Project	1989	Outside APE
001732	PAR Environmental	Cultural Resource Inventory and Evaluation for the Proposed Kensington Square Development Sacramento County, California.	1997	In APE
003440	Susan Lindstrom	A Preliminary Cultural Resource Evaluation of the Sacramento Regional Transit Systems Planning Study Downtown Sacramento/Natomas/Airport Route: EIR	1990	Outside APE
003441	Ebasco Environmental	Cultural Resources Survey of the Sacramento Power Project	1992	In APE
003489	Sharon Waechter - FWARG	Report on the First Phase of Archaeological Survey for the Proposed SMUD Gas Pipeline Between Winters and Sacramento, Yolo and Sacramento Counties	1993	Outside APE
003489B	Sharon Waechter - FWARG	Addendum to the Report on the Archaeological Survey for the Proposed SMUD Gas Pipeline Between Winters and Sacramento, Yolo and Sacramento Counties	1993	Outside APE
004185	Peak & Associates	Cultural Resources Inventory for a Proposed Sure West Tower in Sacramento County	2002	Outside APE
004186	Eleanor Derr	Historical and Cultural Resource Assessment of a Proposed Telecommunications Facility Site No. SA-750-02	2001	Outside APE
004187	Keith Brown	Historical and Cultural Resource Assessment of a Proposed Telecommunications Facility Site No. SA-750-01	2001	Outside APE
004189	Office of Historic Preservation	Historic Property Assessment of RCS Wireless Proposed Telecommunications Facility, Site No. 091-C	2000	Outside APE
004194	Chavez, et al. - David Chavez & Associates	Cultural Resources Evaluation for the North Natomas Community Plan Study Area, Sacramento California	1985	Outside APE
004195	Derr and Boghosian	Cultural Resources Report: North Natomas Comprehensive Drainage Plan; Levee Improvements, Canal Widening and Additional Pumping Capacity	1997	Outside APE
004196	Eleanor Derr	North Natomas Levee Project, Phase 1: Cultural Resources Construction Monitoring	1998	Outside APE
004204	B. Hamusek-McGann	Cultural Resource Inventory and Evaluation for the Proposed Alleghany Property Development Sacramento County, California	1997	Outside APE
008614	Lorna Billat	New Tower Submission Packet, Arco-Del Paso, SAC-197A	2007	Outside APE
O11138	Bradley and Corbett	Rural Historic Landscape Report for Reclamation District 1000 for the Cultural Resources Inventory and Evaluations for the American River Watershed Investigation, Sacramento and Sutter Counties, California	1995	Outside APE
012840	Hennessey and Barrow	Cultural Resources Study for the Natomas Town Center Project, Sacramento, Sacramento County, California	2018	In APE

4.2 Additional Archival Research

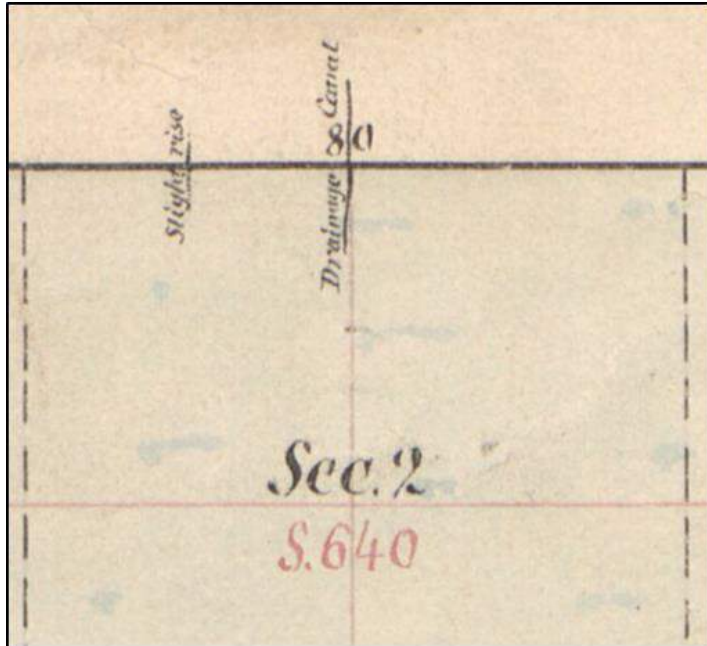


Figure 4. Portion of 1871 GLO plat showing drainage ditch segment in Section 2.

In order to determine if any buildings, structures, features, or other potential cultural resources, built-environment in particular, could be located within or immediately adjacent to the APE, SAS conducted a review of historic USGS topographic maps and General Land Office (GLO) plat maps encompassing the APE and vicinity. Early regional maps typically date to the middle decades of the 19th century and often depict natural and man-made features that could provide indications of developments not presently documented in the archaeological and historical record. SAS also examined GLO land patent records focused on the APE and immediate area to provide information on early land purchases and transfers of public property to private individuals.

The only GLO plat map showing the area surrounding the APE dates to 1871 and with the exception of a segment of north-south trending drainage ditch (Figure 4), no other developments were depicted in either Section 2, or Section 11. GLO land patent records support the 19th century mapping in that no transfers of public (federal) lands appear to have occurred during the 1800s or early 20th century within or immediately adjacent to the APE. This suggests that the land in this area was probably not well-suited to agricultural pursuits or livestock grazing prior to later land reclamation efforts accomplished under RD 1000.

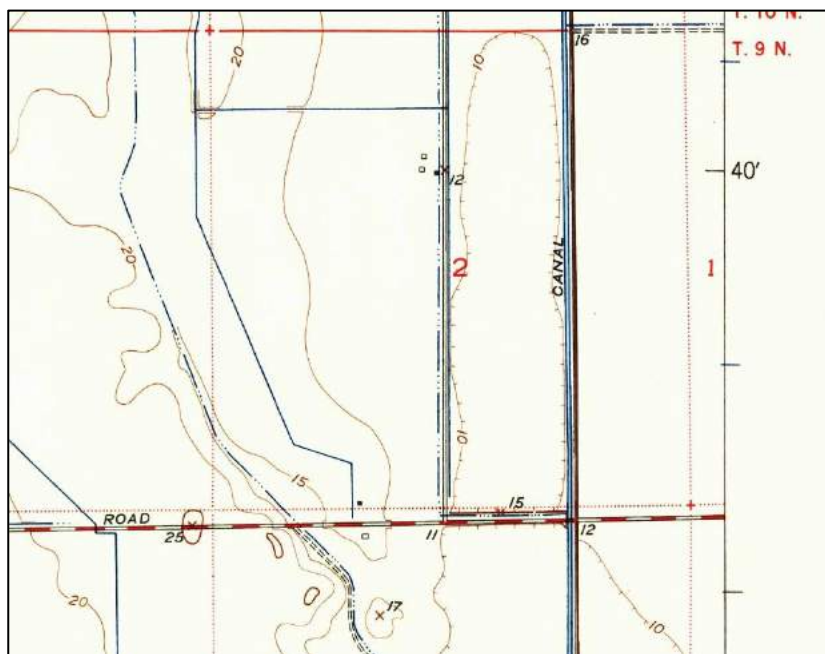


Figure 5. Portion of 1950 Taylor Monument USGS quadrangle map showing developments in APE vicinity.

A review of USGS topographic quadrangles depicting the APE and surrounding region indicates that no mapped historic-era developments were located within or adjacent to the APE during the earliest decades of the 20th century. The 1915 Elkhorn Weir quadrangle shows various roadways, flooded lands, and other developments in the general area but no man-made features in present-day sections 2, or 11. However, by the mid-20th century, significant land reclamation has clearly occurred and transportation and water-conveyance features such as Del Paso Road and the East Drainage Canal are prominently mapped on the 1950 Taylor Monument USGS quadrangle map (Figure 5).

5.0 FIELD METHODS

On December 13th, 2019, SAS archaeologists Susan Talcott, Ph.D., and Amy Wolpert, M.A., conducted an intensive pedestrian survey of the APE walking transects spaced no greater than 15 meters apart. Digital photographs were taken of the survey area, and observations were thoroughly documented. All ground disturbance caused by bioturbation was thoroughly examined, and vegetation was periodically scraped away to inspect the ground surface. Digital photographs were taken of the APE, and observations were recorded in detail. A Trimble Juno GPS unit was also utilized to verify the APE location (NAD 83).

6.0 SURVEY FINDINGS

At the time of the archaeological survey, due to moderate vegetation cover, ground visibility within the APE was generally between 25% and 50% (Appendix E). Several isolated artifacts including a single possible prehistoric chert flake, and a fragment of marine shell were noted on the ground surface along with various pieces of modern debris such as bottle glass and miscellaneous ferrous metal fragments. Two historic-period resources were noted within the APE and these consisted of RD 1000, and an earthen drainage ditch associated with RD 1000 activities (Figure 6) (Site records provided in Appendix F).

P-34-005251 (Reclamation District 1000)

Originally recorded by Peak and Associates in 1997, this resource consists of an NRHP-eligible Historic District (RD 1000) that encompasses 87 square miles of agricultural land characterized by a grid pattern of large fields partitioned by canals, roads, and levees. The initial RD 1000 features were constructed from 1912–1916 with additions and modifications into the present day. RD 1000 transformed the region and was one of the first and largest of the major reclamation districts in the state.

During the archaeological survey SAS updated existing records for a small segment of the Natomas Drainage Ditch (P-34-005260 [see below]). The ditch was an RD 1000-associated feature that is no longer functioning after suburban development filled in portions of the ditch alignment. The Natomas Drainage Ditch segment was the only RD 1000 feature noted in the current Project APE.

Although RD 1000 is an NRHP-listed Historic District, the lands within the APE exhibit no features associated with the development, expansion, operation, or maintenance of the reclamation district. In addition, due to the heavy residential, commercial, and transportation developments surrounding the APE, the property no longer retains any integrity of historic design, setting, feeling, or association, and SAS recommends the APE lands within the RD 1000 Historic District as not representing a contributing element to the NRHP Historic District. Further, as the CRHR requires comparable adherence to condition and integrity criteria, SAS recommends the APE acreage not eligible for CRHR listing as a historical resource or as a contributing element to a CRHR-eligible district.


P-34-005260 (Natomas Drainage Ditch)

Originally recorded by Tom Origer & Associates in 2018, this resource consists of an earthen drainage ditch that was once part of RD 1000 (P-34-005251). The ditch does not have a berm on either side and is no longer functional being only an isolated segment of a once larger system that has been destroyed by area development. According to Tom Origer & Associates, damage to the drainage ditch and the surrounding suburban development detract from the ditch's original function and rural agricultural setting.

SAS relocated and updated the 595-ft. segment of the ditch runs northwest- southeast from just south of New Market Drive to where it terminates at Via Ingoglia. The resource is in fair condition, both ends have been filled in during adjacent parcel development, and there is accumulated debris in the ditch from transient activity and vegetation growth. SAS concurs with the Tom Origer & Associates recommendations that the ditch lacks historic integrity and no longer conveys period design, setting, feeling, or association and does not appear to be a contributing element to the integrity of RD 1000. Consequently, SAS recommends this resource is not a contributing element or eligible for NRHP/CRHR listing under NRHP criteria A–D or CRHR criteria 1–4.



Figure 4. Cultural Resources Location Map.

 P-34-005251 (District)

 Linear Resource

1:2,400

0 200 Feet

0 100 Meters



7.0 DISCUSSION AND CONCLUSIONS

The archaeological survey identified two historic-era cultural resources within the APE, both of which are directly associated with 20th century land reclamation activities under the administration of RD 1000. The presence of these historic-era features within, and in the immediate vicinity of the APE suggests that comparable resources could be present in surface and subsurface contexts in the survey area. In addition, the presence of early Native American sites in the general region suggests that locales related to early Native American occupation and activities could be present in the APE. However, given that no such resources have been identified by SAS or previous researchers, and that much of the land in the area has been heavily impacted by late 20th century agricultural, residential, and commercial development, the probability of encountering any intact prehistoric sites as a result of Project activities is considered low. Concerning historic-era resources, sites, features, and artifacts associated with the predominant historic themes of the APE and surrounding area such as agriculture, land reclamation, and transportation could be present in subsurface contexts in the APE. However, since such activities typically result in deposits and occurrences that can be seen on the ground, the probability of encountering additional comparable resources during Project implementation is considered low.

8.0 RECOMMENDATIONS

Should buried, unforeseen archaeological deposits be encountered during any construction activity, work must cease within a 50-foot radius of the discovery. If a potentially significant discovery is made, it must be treated in accordance with 33 CFR 325, Appendix C which generally states that the lead federal agency (in this case the Corps) must be notified immediately of the find to ensure that mitigation/management recommendations are developed. In the event that human remains or any associated funerary artifacts are discovered during construction, all work must cease within the immediate vicinity of the discovery. In accordance with the California Health and Safety Code (Section 7050.5), the Sacramento County Sheriff/Coroner must also be contacted immediately. If the remains are deemed to be Native American, the coroner must notify the NAHC, which will in turn appoint and notify a Most Likely Descendent (MLD) to act as a tribal representative. The MLD will work with a qualified archaeologist to determine the proper treatment of the human remains and associated funerary objects. Construction activities will not resume until the human remains are exhumed and official notice to proceed is issued.

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APPENDIX A



Key Project Personnel Resumes

Jason A. Coleman, M.A., R.P.A.
jason@solanoarchaeology.com



Highlights:

Founder of Solano Archaeological Services
Surveyed more than 60,000 acres throughout California
Field directed numerous large-scale data recovery projects
Active archaeologist for over 20 years
Conducted professional projects in 5 different states
Proficient in CEQA and Section 106 compliance
Six years college teaching experience (anthropology).

Education:

1996 M.A., Anthropology, California State University, Hayward.
1992 B.A., Anthropology, University of California, Berkeley, with Honors.

Certifications:

Registered Professional Archaeologist (ID 15338)

Professional Affiliation:

Society for California Archaeology
Archaeological Institute of America

Professional Archaeological Experience:

2005-present: Solano Archaeological Services (SAS), Suisun City, California.
Mr. Coleman founded SAS in March of 2005, and maintains the company by overseeing administrative duties including accounting, marketing, permitting, and licensing. Mr. Coleman serves as the main proposal and report writer, and is the lead principal investigator on most projects.

Projects conducted as SAS Owner:

Archaeological Monitoring for the Menlo Park Project, San Mateo County, California (2013-present). Ongoing construction monitoring for five separate developments on the Veteran Affairs (VA) Palo Alto Health Care System at the Menlo Park Division. Projects include the Storm Drain Phase 2 Project, the Entranceway and Parking Lots Upgrade Phase 1A Project, the Seismic Correction of Building 323 and Infrastructure Enhancements Project, Building 205 Demolition, and the Building 361 Community Living Center Clinic Project. The contract involves coordination efforts with the VA, contractor superintendents, and Native American Amah Mutson monitors. As part of the field preparation, all field personnel underwent OSHA 10 safety training.

Position: Principal Investigator, Field Director

Client: Veteran Affairs

Archaeological Identification Surveys for the Farm Services Agency, California-wide (2015-2016). SAS, in tandem with GrassRoots Environmental were awarded a 5-year performance-based blanket purchase agreement with the U.S. Department of Agriculture – Farm Service Agency (USDA-FSA) to conduct a series of cultural resource studies as part of the Emergency Conservation Program (ECP). The ECP helps farmers and ranchers to put in place methods for water conservation and additional water supply during times of severe drought. The ECP provides cost-sharing funds for the construction of these new watering facilities, thus triggering Section 106 regulatory setting. As part of the 2014 Farm Bill passed by the U.S. Congress, the USDA-FSA is using the ECP to assist California farmers in developing permanent water sources and infrastructure (including wells, troughs, tanks, and pipelines) for livestock during the current drought. These water development projects involve a small-scale footprint (typically from three to

six well sites on 1-5 acres) located on private grazing lands. Twenty-four cultural resources inventories have already been completed in Plumas, Sierra, Yuba, Yolo, San Benito, Kern, and Siskiyou Counties as part of the ECP in 2015.

Position: Principal Investigator and Field Director

Client: GrassRoots Environmental prime contract holder

Lower Putah Creek Restoration Project Cultural Resources Inventory and Evaluation Report, Yolo County, California (2015). Located within the Yolo Bypass Wildlife Area (YBWA), a 16,800-acre wildlife preserve managed by California Department of Fish and Wildlife (CDFW), the project proposed to restore ecological functions and enhance fish passage in Lower Putah Creek, from the Putah Diversion Dam through the YBWA. Directed by the Yolo Basin Foundation (YBF) and CDFW, the proposed project would create a new 5.6-mile long Lower Putah Creek channel through the YBWA that would connect through and enhance an existing restored tidal channel on the YBWA, and provide a new connection with the Toe Drain, downstream of the Lisbon Weir. Due to Section 404 permitting with the USACE, the project involved CEQA and Section 106 regulatory settings. SAS conducted a records search at the Northwest Information Center, and extensive research of the project area. Consultation with the Native American community also took place. During survey two historic-era resources were identified, including the grade of the Sacramento Northern Railway and a 220 kilovolt (kv) electrical transmission line. Both resources were fully recorded, researched, and ultimately recommended ineligible for NRHP listing. SAS also prepared an EIR section for the client.

Position: Principal Investigator, Field Director

Client: Richard Grassetti Consulting

Cameron Hills Project, El Dorado County, California (2015). On behalf of Sycamore Environmental, a NEPA-level cultural resources study of a 20-acre parcel was conducted near the town of Shingle Springs. MCP Properties, LLC was proposing to construct a 41-unit residential subdivision of single-family homes at this location. The construction was to include the installation of utilities, a storm water detention basin, and a road network. As the project qualified under the USACE as a Nationwide 14 Linear Transportation Project, the project required the submission of a Section 404 permit to the USACE and compliance with Section 106 of the NHPA. Extensive Native American consultation was conducted, and a reconnaissance survey yielded no cultural resources on the parcel. The report was reviewed and accepted by the USACE and the project was completed successfully on time.

Position: Principal Investigator, Field Director

Client: Sycamore Environmental

Hope Valley Meadow Restoration Project, Alpine County, California (2015). Conducted a NEPA-level cultural study of a 7-acre parcel in Alpine County as part of a wetland restoration effort. American Rivers, a national non-profit conservation organization dedicated to protecting and restoring the rivers of the U.S., proposed to restore meadowlands along the West Fork of the Carson River in Hope Valley south of South Lake Tahoe. The purpose of the Project was to stabilize 130 feet of high, eroding bank along the stream channel on California Department of Fish and Wildlife land. The project was completed on time with no cultural resources discovered, and the report was successfully reviewed and accepted by the U.S. Army Corps of Engineers (USACE).

Position: Principal Investigator, Field Director

Client: American Rivers

Superior Self Storage Project, City of Vacaville, Solano County, California (2015). Conducted a CEQA-level cultural resources inventory on a 2.5-acre lot for the proposed construction of a 45,701 square foot single-story indoor public storage facility located at the southwest intersection of Piper Drive and E. Monte Vista Avenue. The Native American Heritage Commission Sacred Land review, Northwest Information Center records search, and reconnaissance survey were all negative for cultural resources. At the request of the client, the project was successfully expedited within three weeks to ensure deadlines were met with Solano County and the City of Vacaville planning departments.

Position: Principal Investigator, Field Director

Client: Sycamore Environmental

Archaeological Monitoring at the Veteran Affairs Medical Center for the Recreational Services Project, Santa Clara County, California (2014-2015). Archaeological monitoring for the construction a large recreational services center on the Palo Alto VA facility. The project involves coordination with Halbert Construction superintendents and project managers. The VA was contacted to gain information on existing sites previously recorded on the campus. CA-SCL-585, a burial site with associated cultural materials, was found to exist approximately 100 feet away from the ongoing construction. SAS coordinated closely with the client to establish protocols in case if human remains are discovered during subsurface activity.

Position: Principal Investigator, Field Director
Client: Halbert Construction

Archaeological Monitoring for the Willow Housing Project, San Mateo County, California (2014-2015). The VAPAHCS contracted the Core Companies to construct low income housing on the Menlo Park Division campus for retired veterans. SAS in conjunction with the Muwekma Ohlone Tribe monitored all subsurface construction activities, including utility trenching, grading, potholing, and elevator shaft boring. The contract involved coordination with project superintendents, foremen, and Native American monitors, and was completed successfully and on time.

Position: Jason Coleman (SAS), Principal Investigator, Field Director
Client: The Core Companies

Northern California Wetland Enhancement Projects (2013-2015). SAS, working on behalf of the California Waterfowl Association, conducted two stints of NEPA level inventories for proposed wetland restoration efforts involving the excavation of swales and potholes, building and repairing levees, installing water control structures, and planting vegetation. During 2013 SAS conducted studies for six different projects (*Ash Creek Wildlife Area, Dow Ranch, Goose Valley Ranch, Parady Ranch, Richards Ranch, and Soldier Mountain Farm*) in Lassen, Shasta, and Modoc Counties over an expanse of 918 acres. The inventories were under U.S. Fish & Wildlife review, and led to the identification and relocation of 9 sites and 5 isolates. In 2015 SAS conducted surveys for another five projects (*Butte Creek, CHHK, Dow Ranch, Harbert Ranch, and Madsen Ranch*) in Modoc and Lassen Counties for a total expanse of 140 acres. Several NRHP ineligible sites were found.

Position: Principal Investigator, Field Director
Client: California Waterfowl Association

Rockville Trails Project (2012-2015). As the result of a lawsuit settlement, the Solano Land Trust (SLT) acquired a 1500-acre property in located in the southern North Coast Ranges of Solano County, California, and proposed to build a series of recreational trails and access roads for public use. On behalf of SLT, SAS conducted a literature review and records search of the Rockville Trails Project area. SAS relocated all of the previously recorded cultural resources, updated site boundaries and location with sub-meter accurate GPS shapefiles, and made eligibility recommendations for listing in the California Register of Historical Resources. The site information became the focus for SAS' produced management plan, which made site specific recommendations for treatment, avoidance, and possible mitigation measures. Following the plan, SLT proposed a location of the trails and roads that avoided as much as possible known cultural resources. SAS conducted a subsequent full CEQA level inventory of the trail and road systems in which, during the survey, several isolated flaked obsidian fragments and an ineligible historic-era transmission line were identified and evaluated. The Project involved extensive consultation with Yocha Dehe Wintun Nation including several site visits to ensure Native American involvement with the Project.

Position: Principal Investigator, Field Director
Client: Solano Land Trust

Solano Irrigation District (2006-2016). Conducted 34 CEQA level inventories throughout Solano County for proposed irrigation line replacement, deep well construction, water tank facility construction, and property annexation. Several projects (Pierce Lateral B, Chadbourne, and Young) included mitigation for burial sites, subsurface archaeological testing, and construction monitoring. As many of the Solano Irrigation District (SID) lines exist in archaeologically sensitive areas of Solano County, Mr. Coleman helped SID develop protocols for handling projects with known cultural resources.

Position: Principal Investigator, Field Director
Client: Solano Irrigation District

Natural Resources Conservation Service, USDA (2006-2015). Since 2006 Mr. Coleman has personally field directed over 100 projects for the Natural Resources Conservation Service (NRCS). These NEPA level undertakings included studies for wetland restoration, floodplain easement, and fuels modification projects in 31 counties including Butte, Colusa, Contra Costa, Del Norte, Glenn, Humboldt, Kern, Kings, Lake, Lassen, Marin, Mendocino, Merced, Modoc, Plumas, Sacramento, San Bernardino, San Diego, San Joaquin, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Tulare, Yolo and Yuba. Spanning over 44,000 acres of survey in varied terrain including high desert, mountainous Sierra, and coastal regions of California, hundreds of cultural resources were recorded and evaluated for the National Register of Historic Places (NRHP). Historic ranch complexes, petroglyphs, massive lithic scatters, round houses, historic bridges, and road segments represent many of the sites recorded over the years. Mr. Coleman has worked closely with NRCS to make project-specific recommendations to bring the project undertakings to fruition while preserving recorded resources.

Position: Principal Investigator, Field Director
Client: Natural Resources Conservation Service

Tower Market #99 Data Recovery Project (2007-2014). Conducted large-scale investigation of CA-SOL-364/H, a multi-component site consisting of a historic re-deposit of 19th century cultural material, and an extensive prehistoric midden deposit of a Late Middle Period habitation site. Fieldwork was conducted over a two year period. Report included the analysis of 334 burials, 43 archaeological features, and over 50,000 prehistoric artifacts recovered from monitoring and scientific excavation of 18 cubic meters of control units. Full osteological analysis was conducted on the human remains, and a full battery of artifact analyses were employed to help define a new archaeological district (i.e., the Solano Archaeological District). Unique finds included never before seen *in situ* artiodactyl multi-element bone daggers, a charmstone manufacturing station, and evidence of treponemal infection in the prehistoric population. In agreement with Yocha Dehe Wintun Nation, a copy of the final report complete with burial pictures illustrating the mortuary complex and osteological findings has been submitted to the Northwest Information Center under restricted access.

Position: Principal Investigator, Field Director
Client: Tower Energy

White Rock Road Widening Project (2007-2014). Conducted a series of CEQA and NEPA inventories for segments of White Rock Road from Rancho Cordova to the El Dorado County Line. Projects involved oversight by agencies including the Army Corps of Engineers and Caltrans.

Position: Principal Investigator, Field Director

Client: Department of Environmental Review and Assessment, Sacramento County, and City of Rancho Cordova.

Cultural Resources Survey Report for the Manuel Campos Parkway Crossing of Putah South Canal Project, City of Fairfield, Solano County, California (2013). Under review by the Bureau of Reclamation, the project lead agency was the City of Fairfield, which planned to extend the existing Manuel Campos Parkway road segment from Dickson Hill Road to Mystic Drive. The proposed 2,000 linear feet of roadway conformed to the eastern edge of the Mystic Drive intersection, crossed the Putah South Canal, and ended at Dickson Hill Road. As the Putah South Canal lie under the jurisdiction of the Bureau of Reclamation, the City of Fairfield requested an easement to construct a 4-lane bridge crossing to reduce the traffic on residential streets. During this NEPA-level review, the Putah South Canal itself was recorded as an ineligible CRHR historic-era resource by Mr. Coleman.

Position: Principal Investigator, Field Director
Client: City of Fairfield

Cultural Resources Survey Report for the Blue Mountain Land Subdivision Project, Solano County, California (2013). CEQA-level study for a 10-acre parcel planned for subdivision.

Position: Principal Investigator and Field Director
Client: Blue Mountain Land, LLC

Cultural Resources Survey Report for the Rolling Hills Property Subdivision Project, Solano County, California (2013). CEQA-level study for a 40-acre parcel planned for subdivision.

Position: Principal Investigator and Field Director
Client: Blue Mountain Land, LLC

Mark Twain National Forest, MO, USDA (2009-2013). During an IDIQ contract with the Mark Twain National Forest, SAS conducted a total of seven task orders for cultural resources inventories. In 2009, a Full Coverage Methodological survey for the Chadwick II archaeological inventory of 2600 acres in the Ava District was conducted, complete with shovel test pits on appropriate landforms and recordation of two new sites and the relocation of two more. All of the cultural resources were evaluated for NRHP listing. During 2012-2013, SAS conducted six additional task orders totaling 5088 acres in multiple districts.

Position: Principal Investigator
Client: Mark Twain National Forest

SUSAN D TALCOTT, PH.D.

susan@solanoarchaeology.com



Highlights:

- Active archaeologist for 12 years
- Conducted archaeological survey in 4 different states
- Proficient in CEQA, NEPA, and Section 106 compliance
- University Fieldschool Instructor
- Six years college teaching and mentorship experience (anthropology).

Education:

2019 **Ph.D. Evolutionary Anthropology**, University of California, Davis
2012 **M.A., Evolutionary Anthropology**, University of California, Davis.
2007 **B.S., Anthropology**, University of California, Davis.

Certifications:

Meets the Secretary of the Interior's Standard for Archaeology

Professional Affiliation:

Society for American Archaeology
Society for California Archaeology

Professional Archaeological Experience:

2008-2010; 2016-PRESENT SOLANO ARCHAEOLOGICAL SERVICES (SAS), SUISUN CITY, CALIFORNIA.

Mrs. Talcott began as a field technician in 2008, and later served as a crew Chief on large survey projects. She has assisted the company with proposal writing and records searches.

Projects conducted with SAS:

CAL.NET TELECOMMUNICATIONS PROJECTS, EL DORADO, TUOLUMNE, MARIPOSA, AND COUNTIES, CALIFORNIA (2016-2019). A northern California-based telecommunications company called Cal.net proposed to install equipment on existing collocations and build new towers in remote areas of the Sierra Nevada to increase bandwidth for customers. SAS has conducted archaeological record searches, Native American consultation, research into the Historical Resources Inventory listings, and site visits to assess the candidate's location for potential for unrecorded and recorded cultural resources, and to review the potential for direct and indirect visual impact by construction. SAS has submitted letter reports summarizing the results of each individual project (over 40 projects thus far), and making project based recommendations. With the involvement of the Federal Communications Commission, the studies are under the jurisdiction of Section 106 compliance.

Position: Crew Chief/Research Assistant

Client: Sycamore Environmental Consultants, Inc.

COVE FIRE SALVAGE PROJECT, MODOC NATIONAL FOREST, BIG VALLEY RANGER DISTRICT, MODOC COUNTY, CALIFORNIA (2017-2018). The Project was innovative approach to utilizing non-federal resources (staff and funds) to develop and implement a timber and biomass project on federally managed Modoc National Forest (MDF) land. SAS completed an intensive archaeological inventory of 1,380 acres of MDF land and recorded 13 new sites (primarily historic-era can scatters and prehistoric lithic scatters) and relocated two previously documented sites (both lithic scatters) during fieldwork.

Position: Crew Chief/Research Assistant

Client: USDA Modoc National Forest

2017 AMADOR ARCHAEOLOGY SURVEY PROJECT, ELDORADO NATIONAL FOREST, AMADOR RANGER DISTRICT, EL DORADO AND AMADOR COUNTIES, CALIFORNIA (2017). To better manage their Forest and assess damage to heritage resources caused by the 2004 Power Fire, SAS conducted survey of a total of 8,287 acres in the Amador Ranger District. Much of the survey took place in rugged, heavily vegetated terrain exhibiting steep slopes. During survey SAS recorded 14 new sites, including a historic-era corral, multiple cans scatters, and several prehistoric bedrock mortar sites. SAS also relocated and monitored 57 previously recorded sites and assessed them for fire, fuels, and cattle impacts.

Position: Crew Chief/Research Assistant

Client: USDA Eldorado National Forest

CULTURAL RESOURCES INVENTORY FOR THE SLATE AND MUSTANG TWO PROJECTS, KINGS COUNTY, CALIFORNIA (2016). Assisted with background research on the Westlands Water District and the Central Valley Project to evaluate the eligibility of the 12 historic-era water irrigation features identified during survey.

Position: Senior Archaeologist

Client: HELIX Environmental Planning, Inc.

TOWER MARKET #99 DATA RECOVERY PROJECT (2008-2010). Conducted data recovery investigations of CA-SOL-364/H. Fieldwork included excavation and extensive construction monitoring. Participated in the laboratory analyses of over 300 burials, inventory and cataloging of recovered artifacts, and preliminary lithic analyses.

Position: Field Archaeologist

Client: Tower Energy

SEQUOIA NATIONAL FOREST CLASS III ARCHAEOLOGICAL INVENTORY OF HAZARD FUELS PROJECTS IN THE WESTERN DIVIDE RANGER DISTRICT SEQUOIA NATIONAL FOREST, TULARE COUNTY, CA (2011)

Helped conducted survey of over 11,879 acres in the Sequoia National Forest as part of a fuels reduction treatment plan. Seven new sites were identified and evaluated, and over 60 previously recorded sites were relocated, evaluated, and updated.

Position: Field Archaeologist

Client: Sequoia National Forest

CULTURAL RESOURCES SURVEY REPORT FOR THE TULE RIVER RESERVATION PROTECTION PROJECT, SEQUOIA NATIONAL FOREST, TULARE COUNTY, CALIFORNIA (2010). Conducted a Class III intensive cultural resources inventory of a 2264-acre Area of Potential Effect (APE) located in Sequoia National Forest (SNF) lands along the northern boundary of the Tule River Indian Reservation.

Position: Field Archaeologist

Client: Sequoia National Forest

MARK TWAIN NATIONAL FOREST, MO, USDA (2009). Conducted survey for the Chadwick II archaeological inventory of 2600 acres in the Ava District. Excavated shovel test pits at set intervals in appropriate terrain. Relocated two sites and recorded two new sites.

Position: Crew Chief

Client: Mark Twain National Forest

MOAB DISTRICT FIELD OFFICE SELECTED ROAD INVENTORY, SAN JUAN AND GRAND COUNTIES, UTAH, STATE PROJECT NO. U-09-LJ-0075B (2008). Part of the field crew that conducted class II cultural resources inventory to locate and record culturally significant materials along roads in the BLM project area. The project consisted of 23 road segments equaling approximately 1260 acres. During fieldwork 47 new sites and 59 new isolates were identified and evaluated for NRHP listing.

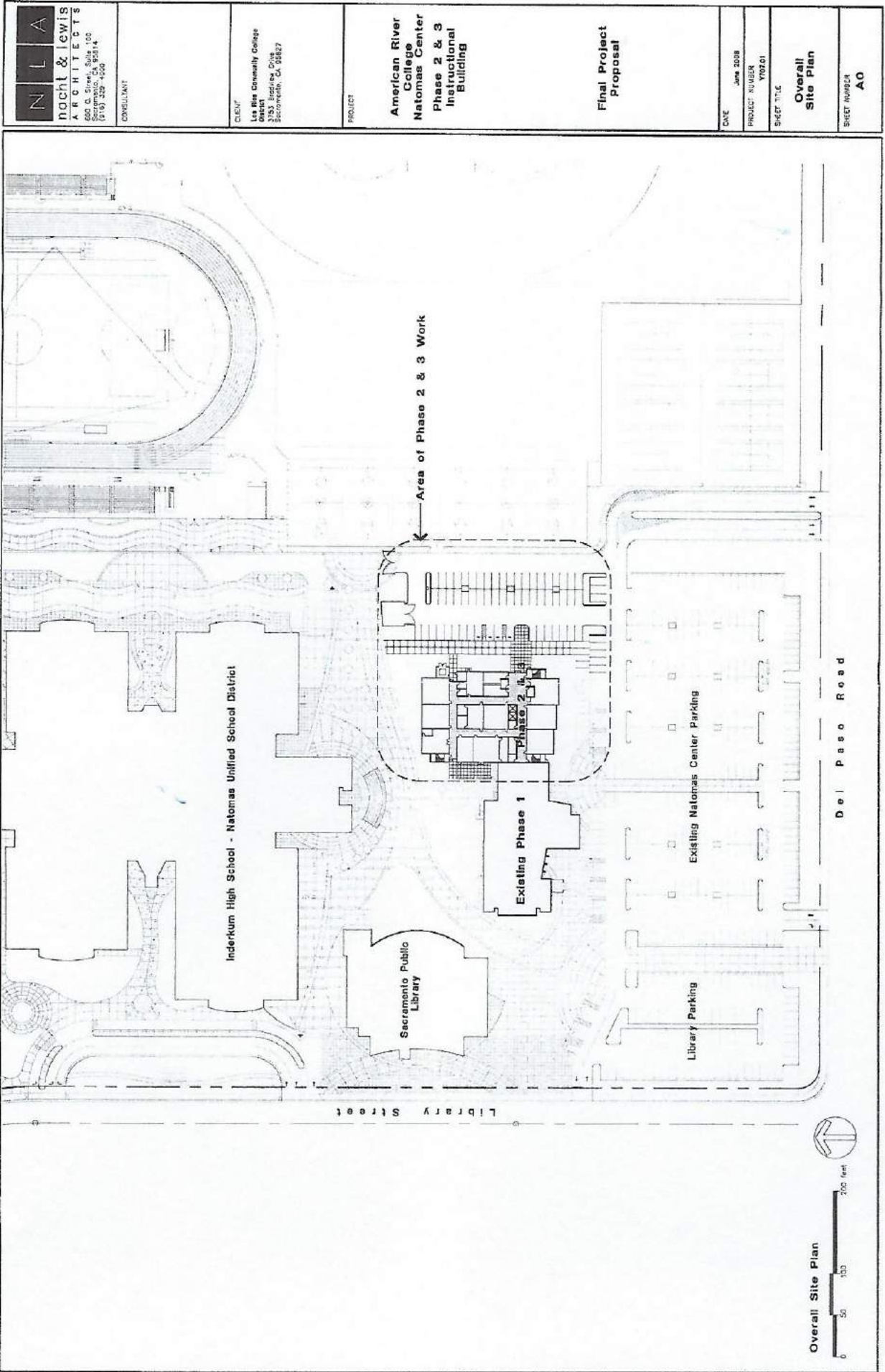
Position: Field Archaeologist

Client: BLM Moab Field Office, Utah

APPENDIX B



Project Plan Maps



N L A
nocht & lewis
ARCHITECTS
600 Q Street, Suite 100
Sacramento, CA 95814
(916) 322-4220

CONSULTANT

CLIENT
Los Rios Community College
District
3153 Broadway Drive
Sacramento, CA 95827

PROJECT
**American River
College
Natomas Center
Phase 2 & 3
Instructional
Building**

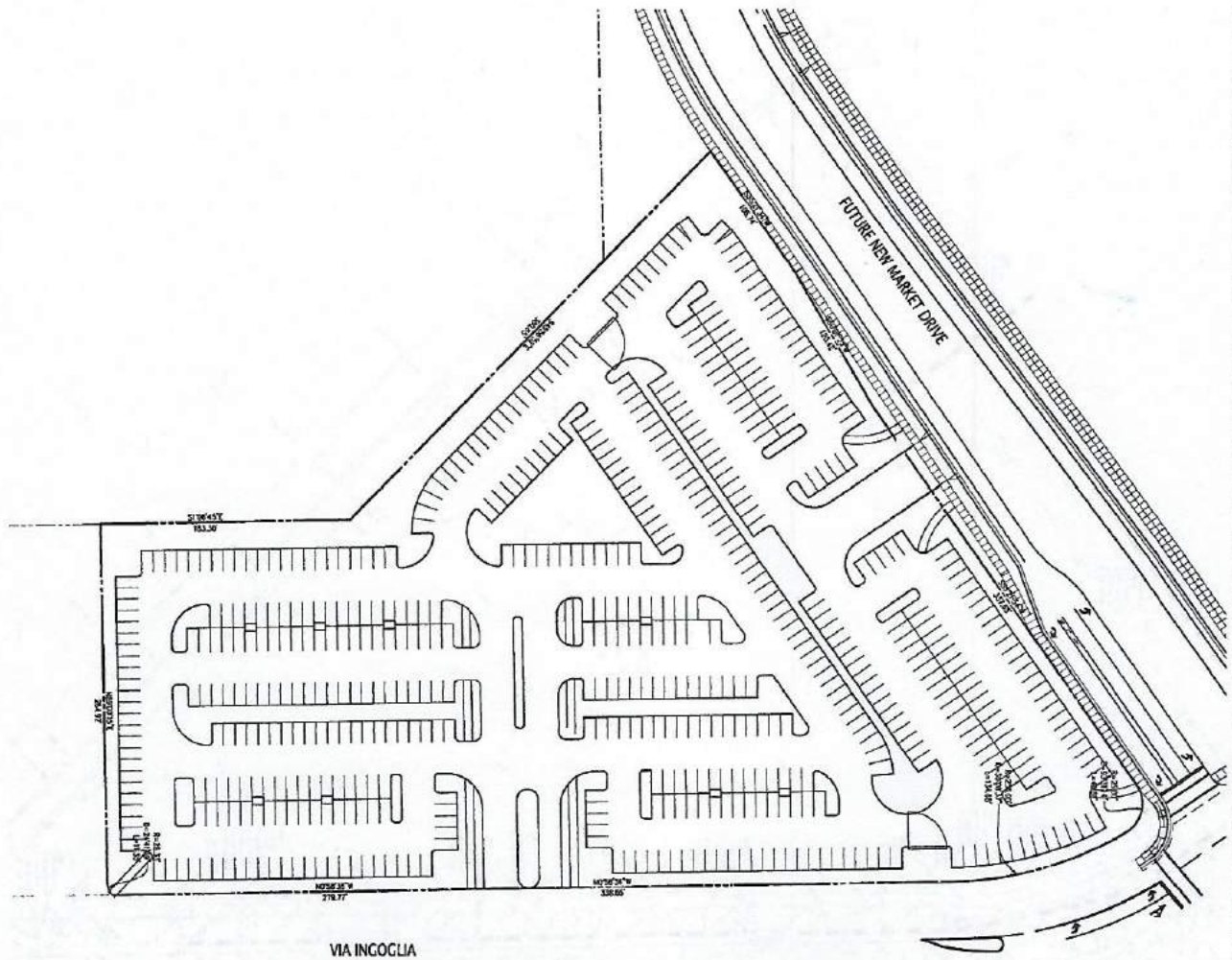
**Final Project
Proposal**

DATE
June 2008

PROJECT NUMBER
Y0201

SHEET TITLE
**Overall
Site Plan**

SHEET NUMBER
AO



PARKING COUNT	
1800D - 389 SPACES	
1800D - 175 SPACES	



DATE: March 12, 2019
SCALE: AS SHOWN
DESIGNED BY: JNW
CHECKED BY: JNW
SHEET NO. 1
SHEET EX
OF 1

EXHIBIT
OF
NATOMAS PARKING EXPANSION
FOR
LOS RIOS COMMUNITY COLLEGE DISTRICT
SACRAMENTO, CALIFORNIA

KIER & WRIGHT
CIVIL ENGINEERS & SURVEYORS, INC.
2005 Prospect Park Drive, Suite 100 Phone: (916) 850-0784
San Jose, CA 95128
www.kierwright.com

NO.	REVISION	BY	DATE	REVISION	BY
1					
2					
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APPENDIX C



Native American Community Outreach



December 09, 2019

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691

To Whom It May Concern:

Petralogix Engineering, Inc. has recently retained Solano Archaeological Services (SAS) to conduct a Section 106 of the National Historic Preservation Act level cultural resources inventory of an approximate 11-acre parcel located in Sacramento, **Sacramento County**, for the proposed **American River College Natomas Center Project**. Petralogix Engineering Inc. proposes development a 564-space parking lot south of a future extension of New Market Drive and west of Via Ingoglia. In addition, Petralogix Engineering, Inc. proposes construction of an instructional building and associated parking lot adjacent to an existing instructional building. The proposed building is north of Del Paso Road, and south of Inderkum High School.

The project location parcels lie on Del Paso Road and New Market Drive, in the City of Sacramento. The project area is situated on the *Taylor Monument, California* topographic 7.5 minute quadrangle, Township 9 North, Range 4 East, Section 2. Attached is a map depicting the project area.

The cultural resources inventory will include a pedestrian survey of the involved property. Before we commence fieldwork, however, we would like to request a Sacred Lands review for any known cultural resources in the project area. If you could please send us a list of Native American individuals/organizations that may have knowledge of cultural resources in the project area, we would greatly appreciate it. We would like to request information from these individuals/entities about any possible unrecorded cultural resources that may exist in the project area. Please know that this Sacred Land review request and subsequent consultation with local tribal representatives is being conducted per Section 106 process, and is not part of official SB 18 or AB 52 consultation.

Please email results back to jason@solanoarchaeology.com.

If you have any questions, feel free to contact me at the numbers listed above. Thank you very much for your time.

Thanks,

A handwritten signature in blue ink, appearing to read "Jason Coleman", is written over a faint, larger blue signature.

Jason Coleman
Principal Investigator and Owner

Enc. USGS topographic map

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: <http://www.nahc.ca.gov>
Twitter: @CA_NAHC



December 13, 2019

Jason Coleman
Solano Archeological Services

VIA Email to: jason@solanoarchaeology.com

RE: American River College Natomas Center Project, Sacramento County

Dear Mr. Coleman:

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 the NAHC. With your assistance, we can assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: Nancy.Gonzalez-Lopez@nahc.ca.gov.

Sincerely,

A handwritten signature in blue ink that reads "Nancy Gonzalez-Lopez".

Nancy Gonzalez-Lopez
Staff Services Analyst

Attachment

**Native American Heritage Commission
Native American Contacts List
December 12, 2019**

Buena Vista Rancheria of Me-Wuk Indians
Rhonda Morningstar Pope, Chairperson
1418 20th Street, Suite 200 Me-Wuk / Miwok
Sacramento CA 95811
rhonda@buenavistatribe.com
(916) 491-0011 Office
(916) 491-0012 Fax

Shingle Springs Band of Miwok Indians
Regina Cuellar, Chairperson
P.O. Box 1340 Miwok
Shingle Springs CA 95682 Maidu
rcuellar@ssband.org
(530) 387-4970
(530) 387-8067 Fax

Colfax-Todds Valley Consolidated Tribe
Pamela Cubbler, Treasurer
P.O. Box 4884 Miwok
Auburn CA 95604 Maidu
PCubbler@colfaxrancheria.com
(530) 320-3943

Tsi Akim Maidu
Grayson Coney, Cultural Director
P.O. Box 510 Maidu
Browns Valley CA 95918
tsi-akim-maidu@att.net
(530) 274-7497

Colfax-Todds Valley Consolidated Tribe
Clyde Prout, Chairman
P.O. Box 4884 Miwok
Auburn CA 95604 Maidu
miwokmaidu@yahoo.com
(916) 577-3558

Tsi Akim Maidu
Don Ryberg, Chairperson
P.O. Box 510 Maidu
Browns Valley CA 95918
tsi-akim-maidu@att.net
(530) 383-7234

Ione Band of Miwok Indians
Sara Dutschke Setchwaelo, Chairperson
9252 Bush Street, Suite 2 Miwok
Plymouth CA 95669
sara@ionemiwok.net
(209) 245-5800
(209) 256-9799

United Auburn Indian Community of the Auburn Rancheria
Gene Whitehouse, Chairperson
10720 Indian Hill Road Maidu
Auburn CA 95603 Miwok
bguth@auburnrancheria.com
(530) 883-2390 Office
(530) 883-2380 Fax

Nashville Enterprise Miwok-Maidu-Nishinam Tribe
Cosme A. Valdez, Chairperson
P.O. Box 580986 Miwok
Elk Grove CA 95758-001
valdezcome@comcast.net
(916) 429-8047 Voice/Fax
(916) 396-1173 Cell

Wilton Rancheria
Raymond Hitchcock, Chairperson
9728 Kent Street Miwok
Elk Grove CA 95624
rhitchcock@wiltonrancheria-nsn.gov
(916) 683-6000 Office
(916) 683-6015 Fax

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

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

This list is only applicable for contacting local Native Americans Tribes for the proposed:
American River College Natomas Center Project, Sacramento County.



December 16, 2019

Tsi Akim Maidu
Attn. Grayson Coney, Cultural Director
P.O. Box 510
Browns Valley, CA 95918

Dear Mr. Coney:

Petralogix Engineering, Inc. has recently retained Solano Archaeological Services (SAS) to conduct a Section 106 of the National Historic Preservation Act (NHPA) level cultural resources inventory of two parcels comprising a total of approximately 11 acres located in Natomas, **Sacramento County**, for the proposed **Los Rios Community College District Natomas Center Project (Project)**. Petralogix Engineering, Inc. proposes development of a 564-space parking area on the larger parcel south of New Market Drive and west of Via Ingoglia across the street from the existing campus. On the smaller parcel Petralogix Engineering, Inc. proposes construction of an instructional building with 31,077 assignable square feet of space adjacent to the existing American River College Natomas Center building.

The Natomas Center Campus address is 2421 Del Paso Road, Sacramento, California. The Project is located at the intersection of Del Paso and Via Ingoglia, approximately 4,000 feet east of Interstate 5, in the City of Natomas. The project area is situated on the *Taylor Monument, California* topographic 7.5 minute quadrangle, Township 9 North, Range 4 East, Section 2. Attached is a map depicting the project area.

The archaeological records search at the North Central Information System at California State University, Sacramento, indicated that two previously identified historic-era resources lie in the project area. P-34-005251, Reclamation District 1000, consists of an 87-square mile grid system of agricultural land with associated canals and roads. P-34-005260, the Natomas Drainage Ditch, is a no longer functioning ditch that was part of Reclamation District 1000.

The Native American Heritage Commission (NAHC) Sacred Land File search was negative for pre-contact resources in the project area. We are writing to see if you know of any unrecorded pre-contact resources in the involved parcel. Any input would be greatly appreciated. Please know that this request is for informational purposes only and is not part of SB 18 or AB 52 review. Thank you in advance for your time.

Sincerely,

A handwritten signature in black ink, appearing to read "Susan Talcott", is written over a light gray rectangular background.

Susan Talcott
Project Manager and Senior Archaeologist
susan@solanoarchaeology.com

Enc. USGS topographic map



December 16, 2019

Colfax-Todds Valley Consolidated Tribe
Attn. Pamela Cubbler, Treasurer
P.O. Box 4884
Aburn, CA 95604

Dear Ms. Cubbler:

Petralogix Engineering, Inc. has recently retained Solano Archaeological Services (SAS) to conduct a Section 106 of the National Historic Preservation Act (NHPA) level cultural resources inventory of two parcels comprising a total of approximately 11 acres located in Natomas, **Sacramento County**, for the proposed **Los Rios Community College District Natomas Center Project (Project)**. Petralogix Engineering, Inc. proposes development of a 564-space parking area on the larger parcel south of New Market Drive and west of Via Ingoglia across the street from the existing campus. On the smaller parcel Petralogix Engineering, Inc. proposes construction of an instructional building with 31,077 assignable square feet of space adjacent to the existing American River College Natomas Center building.

The Natomas Center Campus address is 2421 Del Paso Road, Sacramento, California. The Project is located at the intersection of Del Paso and Via Ingoglia, approximately 4,000 feet east of Interstate 5, in the City of Natomas. The project area is situated on the *Taylor Monument, California* topographic 7.5 minute quadrangle, Township 9 North, Range 4 East, Section 2. Attached is a map depicting the project area.

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Sincerely,

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Susan Talcott
Project Manager and Senior Archaeologist
susan@solanoarchaeology.com

Enc. USGS topographic map



December 16, 2019

Shingle Springs Band of Miwok Indians
Attn. Regina Cuellar, Chairman
P.O. Box 1340
Shingle Springs, CA 95682

Dear Ms. Cuellar:

Petralogix Engineering, Inc. has recently retained Solano Archaeological Services (SAS) to conduct a Section 106 of the National Historic Preservation Act (NHPA) level cultural resources inventory of two parcels comprising a total of approximately 11 acres located in Natomas, **Sacramento County**, for the proposed **Los Rios Community College District Natomas Center Project (Project)**. Petralogix Engineering, Inc. proposes development of a 564-space parking area on the larger parcel south of New Market Drive and west of Via Ingoglia across the street from the existing campus. On the smaller parcel Petralogix Engineering, Inc. proposes construction of an instructional building with 31,077 assignable square feet of space adjacent to the existing American River College Natomas Center building.

The Natomas Center Campus address is 2421 Del Paso Road, Sacramento, California. The Project is located at the intersection of Del Paso and Via Ingoglia, approximately 4,000 feet east of Interstate 5, in the City of Natomas. The project area is situated on the *Taylor Monument, California* topographic 7.5 minute quadrangle, Township 9 North, Range 4 East, Section 2. Attached is a map depicting the project area.

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Susan Talcott
Project Manager and Senior Archaeologist
susan@solanoarchaeology.com

Enc. USGS topographic map



December 16, 2019

Wilton Rancheria
Attn. Raymond Hitchcock, Chairperson
9728 Kent Street
Elk Grove, CA 95624

Dear Mr. Whitehouse:

Petralogix Engineering, Inc. has recently retained Solano Archaeological Services (SAS) to conduct a Section 106 of the National Historic Preservation Act (NHPA) level cultural resources inventory of two parcels comprising a total of approximately 11 acres located in Natomas, **Sacramento County**, for the proposed **Los Rios Community College District Natomas Center Project (Project)**. Petralogix Engineering, Inc. proposes development of a 564-space parking area on the larger parcel south of New Market Drive and west of Via Ingoglia across the street from the existing campus. On the smaller parcel Petralogix Engineering, Inc. proposes construction of an instructional building with 31,077 assignable square feet of space adjacent to the existing American River College Natomas Center building.

The Natomas Center Campus address is 2421 Del Paso Road, Sacramento, California. The Project is located at the intersection of Del Paso and Via Ingoglia, approximately 4,000 feet east of Interstate 5, in the City of Natomas. The project area is situated on the *Taylor Monument, California* topographic 7.5 minute quadrangle, Township 9 North, Range 4 East, Section 2. Attached is a map depicting the project area.

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The Native American Heritage Commission (NAHC) Sacred Land File search was negative for pre-contact resources in the project area. We are writing to see if you know of any unrecorded pre-contact resources in the involved parcel. Any input would be greatly appreciated. Please know that this request is for informational purposes only and is not part of SB 18 or AB 52 review. Thank you in advance for your time.

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Susan Talcott
Project Manager and Senior Archaeologist
susan@solanoarchaeology.com

Enc. USGS topographic map



December 16, 2019

Buena Vista Rancheria of Me-Wuk Indians
Rhonda Morningstar Pope, Chairperson
1418 20th Street, Suite 200
Sacramento, CA 95811

Dear Ms. Pope:

Petralogix Engineering, Inc. has recently retained Solano Archaeological Services (SAS) to conduct a Section 106 of the National Historic Preservation Act (NHPA) level cultural resources inventory of two parcels comprising a total of approximately 11 acres located in Natomas, **Sacramento County**, for the proposed **Los Rios Community College District Natomas Center Project (Project)**. Petralogix Engineering, Inc. proposes development of a 564-space parking area on the larger parcel south of New Market Drive and west of Via Ingoglia across the street from the existing campus. On the smaller parcel Petralogix Engineering, Inc. proposes construction of an instructional building with 31,077 assignable square feet of space adjacent to the existing American River College Natomas Center building.

The Natomas Center Campus address is 2421 Del Paso Road, Sacramento, California. The Project is located at the intersection of Del Paso and Via Ingoglia, approximately 4,000 feet east of Interstate 5, in the City of Natomas. The project area is situated on the *Taylor Monument, California* topographic 7.5 minute quadrangle, Township 9 North, Range 4 East, Section 2. Attached is a map depicting the project area.

The archaeological records search at the North Central Information System at California State University, Sacramento, indicated that two previously identified historic-era resources lie in the project area. P-34-005251, Reclamation District 1000, consists of an 87-square mile grid system of agricultural land with associated canals and roads. P-34-005260, the Natomas Drainage Ditch, is a no longer functioning ditch that was part of Reclamation District 1000.

The Native American Heritage Commission (NAHC) Sacred Land File search was negative for pre-contact resources in the project area. We are writing to see if you know of any unrecorded pre-contact resources in the involved parcel. Any input would be greatly appreciated. Please know that this request is for informational purposes only and is not part of SB 18 or AB 52 review. Thank you in advance for your time.

Sincerely,

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Susan Talcott
Project Manager and Senior Archaeologist
susan@solanoarchaeology.com

Enc. USGS topographic map



December 16, 2019

Colfax-Todds Valley Consolidated Tribe
Attn. Clyde Prout, Chairman
P.O. Box 4884
Aburn, CA 95604

Dear Mr. Prout:

Petralogix Engineering, Inc. has recently retained Solano Archaeological Services (SAS) to conduct a Section 106 of the National Historic Preservation Act (NHPA) level cultural resources inventory of two parcels comprising a total of approximately 11 acres located in Natomas, **Sacramento County**, for the proposed **Los Rios Community College District Natomas Center Project (Project)**. Petralogix Engineering, Inc. proposes development of a 564-space parking area on the larger parcel south of New Market Drive and west of Via Ingoglia across the street from the existing campus. On the smaller parcel Petralogix Engineering, Inc. proposes construction of an instructional building with 31,077 assignable square feet of space adjacent to the existing American River College Natomas Center building.

The Natomas Center Campus address is 2421 Del Paso Road, Sacramento, California. The Project is located at the intersection of Del Paso and Via Ingoglia, approximately 4,000 feet east of Interstate 5, in the City of Natomas. The project area is situated on the *Taylor Monument, California* topographic 7.5 minute quadrangle, Township 9 North, Range 4 East, Section 2. Attached is a map depicting the project area.

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Sincerely,

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Susan Talcott
Project Manager and Senior Archaeologist
susan@solanoarchaeology.com

Enc. USGS topographic map



December 16, 2019

Ione Band of Miwok Indians
Attn. Sara Dutschke Setchwaelo, Chairman
9252 Bush Street, Ste. 2
Plymouth, CA 95669

Dear Ms. Dutschke Setchwaelo:

Petralogix Engineering, Inc. has recently retained Solano Archaeological Services (SAS) to conduct a Section 106 of the National Historic Preservation Act (NHPA) level cultural resources inventory of two parcels comprising a total of approximately 11 acres located in Natomas, **Sacramento County**, for the proposed **Los Rios Community College District Natomas Center Project (Project)**. Petralogix Engineering, Inc. proposes development of a 564-space parking area on the larger parcel south of New Market Drive and west of Via Ingoglia across the street from the existing campus. On the smaller parcel Petralogix Engineering, Inc. proposes construction of an instructional building with 31,077 assignable square feet of space adjacent to the existing American River College Natomas Center building.

The Natomas Center Campus address is 2421 Del Paso Road, Sacramento, California. The Project is located at the intersection of Del Paso and Via Ingoglia, approximately 4,000 feet east of Interstate 5, in the City of Natomas. The project area is situated on the *Taylor Monument, California* topographic 7.5 minute quadrangle, Township 9 North, Range 4 East, Section 2. Attached is a map depicting the project area.

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Sincerely,

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Susan Talcott
Project Manager and Senior Archaeologist
susan@solanoarchaeology.com

Enc. USGS topographic map



December 16, 2019

Nashville Enerprise Miwok-Maidu-Nishinam Tribe
Attn. Cosme A. Valdez, Chairman
P.O. Box 580986
Elk Grove, CA 95758

Dear Mr. Valdez:

Petralogix Engineering, Inc. has recently retained Solano Archaeological Services (SAS) to conduct a Section 106 of the National Historic Preservation Act (NHPA) level cultural resources inventory of two parcels comprising a total of approximately 11 acres located in Natomas, **Sacramento County**, for the proposed **Los Rios Community College District Natomas Center Project (Project)**. Petralogix Engineering, Inc. proposes development of a 564-space parking area on the larger parcel south of New Market Drive and west of Via Ingoglia across the street from the existing campus. On the smaller parcel Petralogix Engineering, Inc. proposes construction of an instructional building with 31,077 assignable square feet of space adjacent to the existing American River College Natomas Center building.

The Natomas Center Campus address is 2421 Del Paso Road, Sacramento, California. The Project is located at the intersection of Del Paso and Via Ingoglia, approximately 4,000 feet east of Interstate 5, in the City of Natomas. The project area is situated on the *Taylor Monument, California* topographic 7.5 minute quadrangle, Township 9 North, Range 4 East, Section 2. Attached is a map depicting the project area.

The archaeological records search at the North Central Information System at California State University, Sacramento, indicated that two previously identified historic-era resources lie in the project area. P-34-005251, Reclamation District 1000, consists of an 87-square mile grid system of agricultural land with associated canals and roads. P-34-005260, the Natomas Drainage Ditch, is a no longer functioning ditch that was part of Reclamation District 1000.

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Sincerely,

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Susan Talcott
Project Manager and Senior Archaeologist
susan@solanoarchaeology.com

Enc. USGS topographic map



December 16, 2019

United Auburn Indian Community of the Auburn Rancheria
Attn. Gene Whitehouse, Chairperson
10720 Indian Hill Road
Auburn, CA 95603

Dear Mr. Whitehouse:

Petralogix Engineering, Inc. has recently retained Solano Archaeological Services (SAS) to conduct a Section 106 of the National Historic Preservation Act (NHPA) level cultural resources inventory of two parcels comprising a total of approximately 11 acres located in Natomas, **Sacramento County**, for the proposed **Los Rios Community College District Natomas Center Project (Project)**. Petralogix Engineering, Inc. proposes development of a 564-space parking area on the larger parcel south of New Market Drive and west of Via Ingoglia across the street from the existing campus. On the smaller parcel Petralogix Engineering, Inc. proposes construction of an instructional building with 31,077 assignable square feet of space adjacent to the existing American River College Natomas Center building.

The Natomas Center Campus address is 2421 Del Paso Road, Sacramento, California. The Project is located at the intersection of Del Paso and Via Ingoglia, approximately 4,000 feet east of Interstate 5, in the City of Natomas. The project area is situated on the *Taylor Monument, California* topographic 7.5 minute quadrangle, Township 9 North, Range 4 East, Section 2. Attached is a map depicting the project area.

The archaeological records search at the North Central Information System at California State University, Sacramento, indicated that two previously identified historic-era resources lie in the project area. P-34-005251, Reclamation District 1000, consists of an 87-square mile grid system of agricultural land with associated canals and roads. P-34-005260, the Natomas Drainage Ditch, is a no longer functioning ditch that was part of Reclamation District 1000.

The Native American Heritage Commission (NAHC) Sacred Land File search was negative for pre-contact resources in the project area. We are writing to see if you know of any unrecorded pre-contact resources in the involved parcel. Any input would be greatly appreciated. Please know that this request is for informational purposes only and is not part of SB 18 or AB 52 review. Thank you in advance for your time.

Sincerely,

A handwritten signature in black ink, appearing to read "Susan Talcott", is written over a light gray rectangular background.

Susan Talcott
Project Manager and Senior Archaeologist
susan@solanoarchaeology.com

Enc. USGS topographic map

Native American Consultation Log

Project: Los Rios Community College District Natomas Center Project, Sacramento County

Native American Contact	Contacted By	Date of Communication	Responses
Rhonda Morningstar Pope	Jason Coleman	12/16/19	Mailed project introduction letter and maps depicting project area.
	Susan Talcott	12/23/19	Emailed follow up communication asking for questions and/or concerns about the project.
	Susan Talcott	12/30/19	Emailed follow-up communication about field findings.
Regina Cuellar	Jason Coleman	12/16/19	Mailed project introduction letter and maps depicting project area.
	Susan Talcott	12/23/19	Emailed follow up communication asking for questions and/or concerns about the project.
	Susan Talcott	12/30/19	Emailed follow-up communication about field findings.
Pamela Cubbler	Jason Coleman	12/16/19	Mailed project introduction letter and maps depicting project area.
	Susan Talcott	12/23/19	Emailed follow up communication asking for questions and/or concerns about the project.
	Susan Talcott	12/30/19	Emailed follow-up communication about field findings.
Grayson Coney	Jason Coleman	12/16/19	Mailed project introduction letter and maps depicting project area.
	Susan Talcott	12/23/19	Emailed follow up communication asking for questions and/or concerns about the project.
	Susan Talcott	12/30/19	Emailed follow-up communication about field findings.
Clyde Prout	Jason Coleman	12/16/19	Mailed project introduction letter and maps depicting project area.
	Susan Talcott	12/23/19	Emailed follow up communication asking for questions and/or concerns about the project.
	Susan Talcott	12/30/19	Emailed follow-up communication about field findings.
Don Ryberg	Jason Coleman	12/16/19	Mailed project introduction letter and maps

Solano Archaeological Services

	Susan Talcott	12/23/19	depicting project area. Emailed follow up communication asking for questions and/or concerns about the project.
	Susan Talcott	12/30/19	Emailed follow-up communication about field findings.
Sara Dutschke Setchwaelo	Jason Coleman	12/16/19	Mailed project introduction letter and maps depicting project area.
	Susan Talcott	12/23/19	Emailed follow up communication asking for questions and/or concerns about the project.
	Susan Talcott	12/30/19	Emailed follow-up communication about field findings.
Gene Whitehouse	Jason Coleman	12/16/19	Mailed project introduction letter and maps depicting project area.
	Susan Talcott	12/23/19	Emailed follow up communication asking for questions and/or concerns about the project.
	Susan Talcott	12/30/19	Emailed follow-up communication about field findings.
Cosme A. Valdez	Jason Coleman	12/16/19	Mailed project introduction letter and maps depicting project area.
	Susan Talcott	12/23/19	Emailed follow up communication asking for questions and/or concerns about the project.
	Susan Talcott	12/30/19	Emailed follow-up communication about field findings.
Raymond Hitchcock	Jason Coleman	12/16/19	Mailed project introduction letter and maps depicting project area.
	Susan Talcott	12/23/19	Emailed follow up communication asking for questions and/or concerns about the project.
	Susan Talcott	12/30/19	Emailed follow-up communication about field findings.

APPENDIX D



Record Search Results



12/11/2019

NCIC File No.: SAC-19-242

Susan Talcott
Solano Archaeological Services
131 Sunset Avenue, #120
Suisun City, CA 94585

**Records Search Invoice for
ARC Natomas Extension**

Quantity	Description	Unit Price	Line Total
0	Staff research hours	150.00	0.00
1	In-house research hours	100.00	100.00
0	Staff assistance hours	40.00	0.00
24	Custom map features		150.00
0	Shapefile features	12.00	0.00
0	Digital database features	0.25	0.00
1	Quads (crossed into)		
137	Printed pages/PDF pages	0.15	20.55
Subtotal			270.55
Priority 50% fee			
Total			270.55

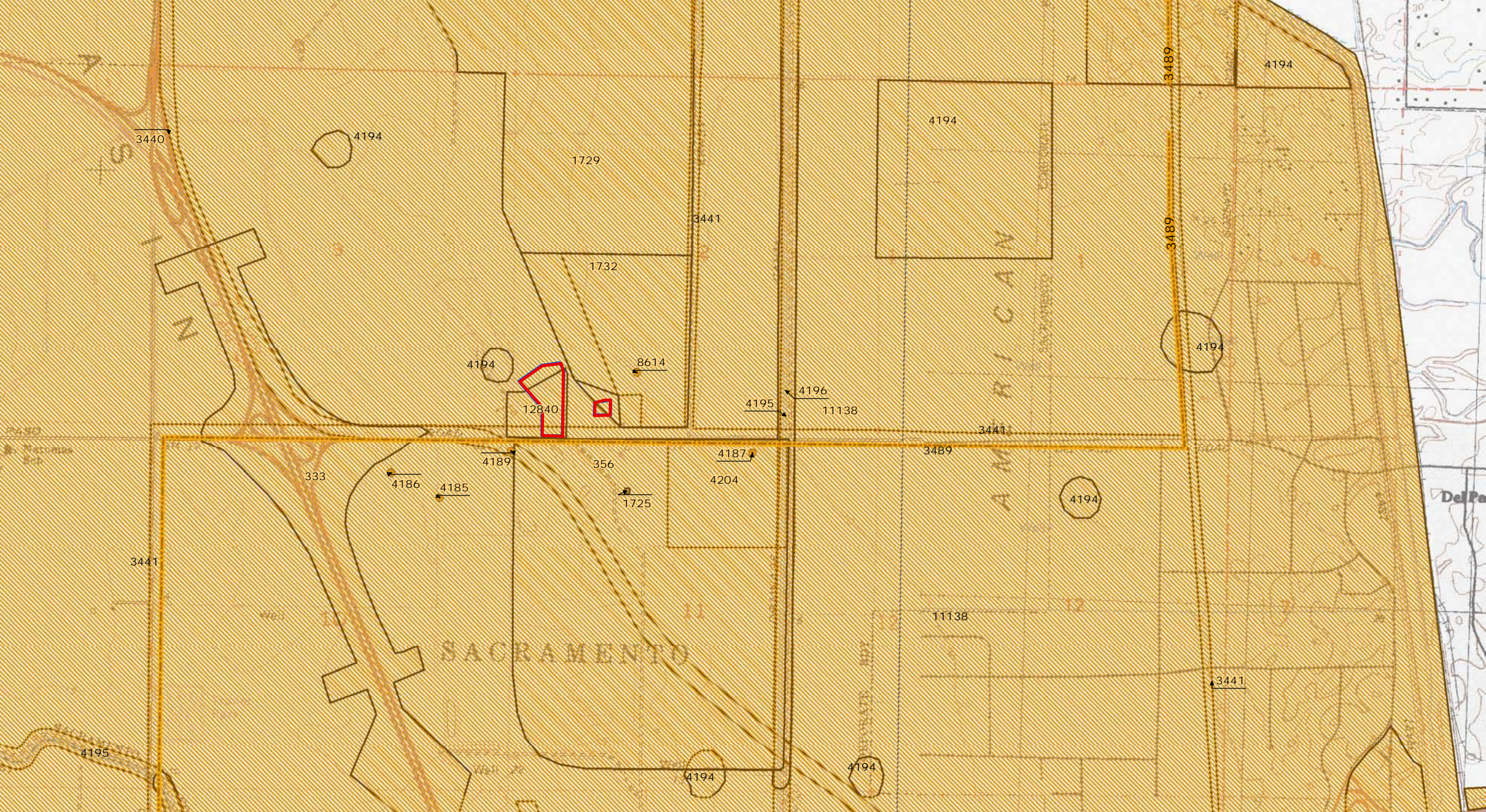
Forward payment to:

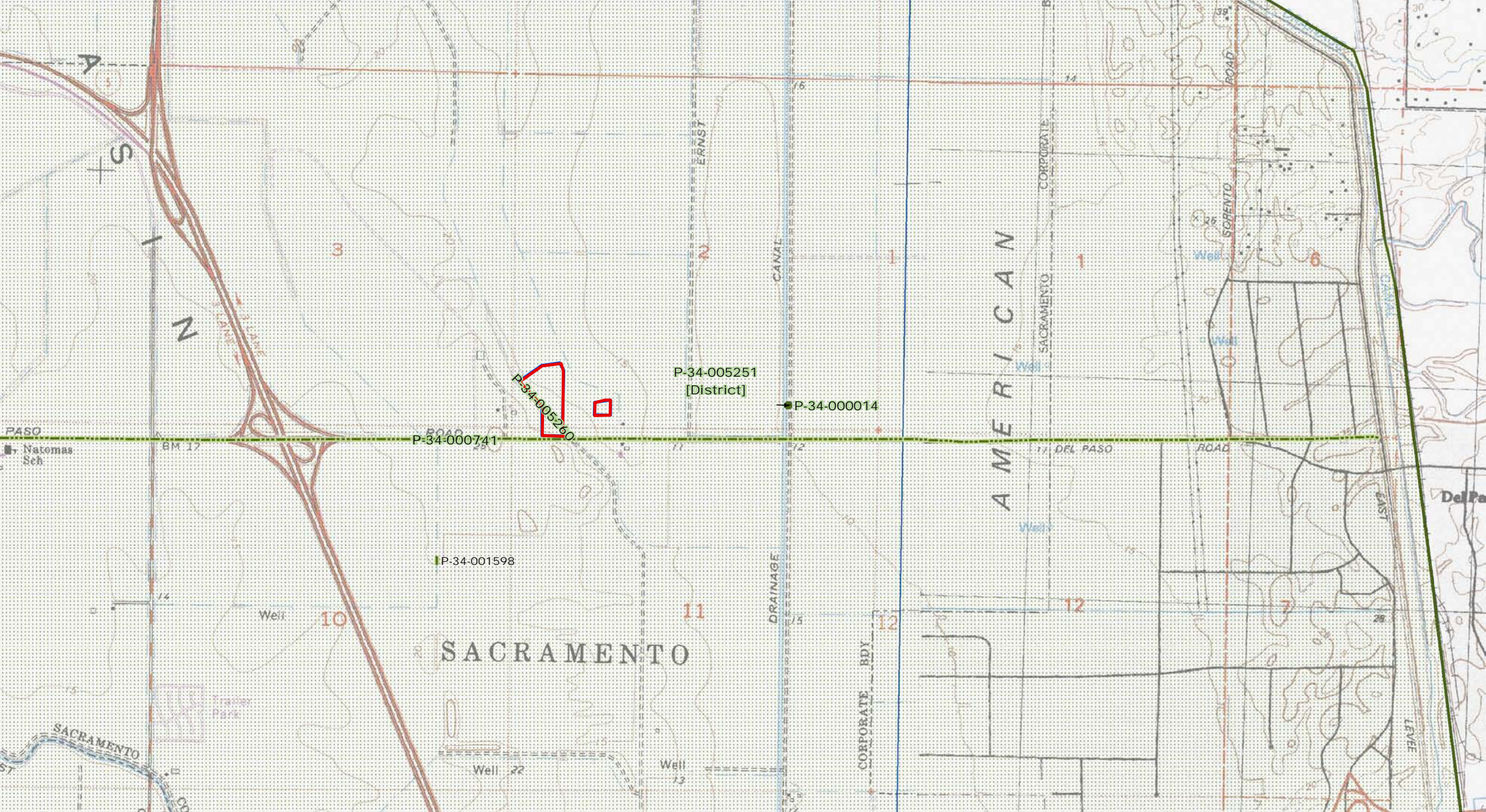
North Central Information Center
California State University, Sacramento | Folsom Hall, Suite 2042
6000 J Street | Sacramento, CA 95819-6100

Make checks payable to:

University Enterprises, Inc.

To view the CHRIS IC Electronic Fee Structure please visit:
http://ohp.parks.ca.gov/pages/1068/files/CHRIS_IC_Fee_Structure.pdf





PASO
Natomas
Sch

BM 17

P-34-000741

P-34-005260

P-34-005251
[District]

P-34-000014

P-34-001598

Well

SACRAMENTO

Well 22

Well 13

DRAINAGE

CORPORATE RDY

AMERICAN

CORPORATE
SACRAMENTO

DEL PASO

ROAD

LEVEE

**HISTORIC AMERICAN ENGINEERING RECORD
RECLAMATION DISTRICT 1000
HAER NO. CA-187**

Location: The American Basin, northwestern Sacramento County and southwestern Sutter County, California

USGS 7.5' Quadrangles: ^{VERONA} ~~Vernon~~, Pleasant Grove, Grays Bend, Taylor Monument, Rio Linda, Sacramento East, Sacramento West

UTM Coordinates: 2. 618 960 4291 880 2. 627 660 4298 690
2. 639 260 4274 440 2. 618 740 4272 160

(UTM Coordinates for contributing features are included in "Description.")

Date of Construction: Initial features: 1912-1916; numerous additions and alterations to the present

Engineer: Early features: George Dillman, J.G. White & Company, Stephen E. Kieffer, Emery Oliver; numerous other engineers

Builder: Early features: primarily Natomas Company; numerous other builders

Present Owners: Numerous

Present Use: Mixed. District features serve for flood control and transportation; land is in use for agricultural, residential and commercial purposes.

Significance: The Reclamation District 1000 Rural Historic Landscape District is significant at the state level for the period from 1911 to 1939. The establishment of the District as a part of a regional reclamation plan resulted in the social, economic and physical transformation of the region, from the original flood plain to a distinctly different open rural landscape consisting of levees, canals and roads intersecting to form large, blocks of fields. RD 1000 was among the first and largest of the major reclamation districts in the state. These features and spatial patterns that characterized the reclamation landscape during its period of significance are characteristic of the landscape today. The district was determined eligible for the National Register of Historic Places in 1994.

Report Prepared by: Melinda A. Peak
Peak & Associates, Inc.
3941 Park Drive, Suite 20-329
El Dorado Hills, CA 95762

Date: June 1997

I. DESCRIPTION

The vast, open landscape of Reclamation District (RD) 1000 is characterized by its large field patterns formed by the overlapping of the drainage and road system, covering 87 square miles. The grid pattern created by the canals, roads, and fields distinguishes this area from the surrounding landscape, gives RD 1000 a recognizable character, and remains a consistent distinguishing feature since the completion of the infrastructures of the district in the early 1920s. The description of the individual contributing characteristics, grouped under drainage system, road system, and large scale land use patterns, is a way to present this complex and large landscape in a comprehensible manner.

The following text describing the features is quoted from the 1996 Dames & Moore *Historic Properties Treatment Plan for Reclamation District 1000 Rural Historic Landscape District*, with minor editorial changes.

Drainage System

Today, the RD 1000 historic drainage system remains intact. The location, materials, and design (function) of levees and canals remain unchanged. Over the years, five additional pumping plants have been added, allowing for a more sophisticated control of flood waters. Water within the system can be pumped and drained at these plants located along the perimeters of the district rather than waiting for water to flow down to Plant No. 1. The drainage system consists of 30 miles of main canals (these are owned in fee, with portions of the East Drainage Canal on right-of-way) and the eight pumping plants. This is the backbone or framework of the drainage system. In addition, there are approximately 150 miles of ditches that are used for drainage and irrigation.

LEVEES AND EXTERIOR DRAINAGE CANALS

River Levee

The River Levee is the western edge of RD 1000 and protects the district from the flood waters of the Sacramento River. It begins at the Cross Canal Levee and continues downstream for 17.99 miles to the confluence of the American and Sacramento rivers. The levee was built so that there was a minimum width of 800 feet between it and the levee on the west bank of the river. This and all other levees of RD 1000 conform to standards established for the Sacramento Flood Control Project in 1911. The Garden Highway runs along the crown of the levee. The location, materials, and design (i.e. the

GENERAL VICINITY MAP

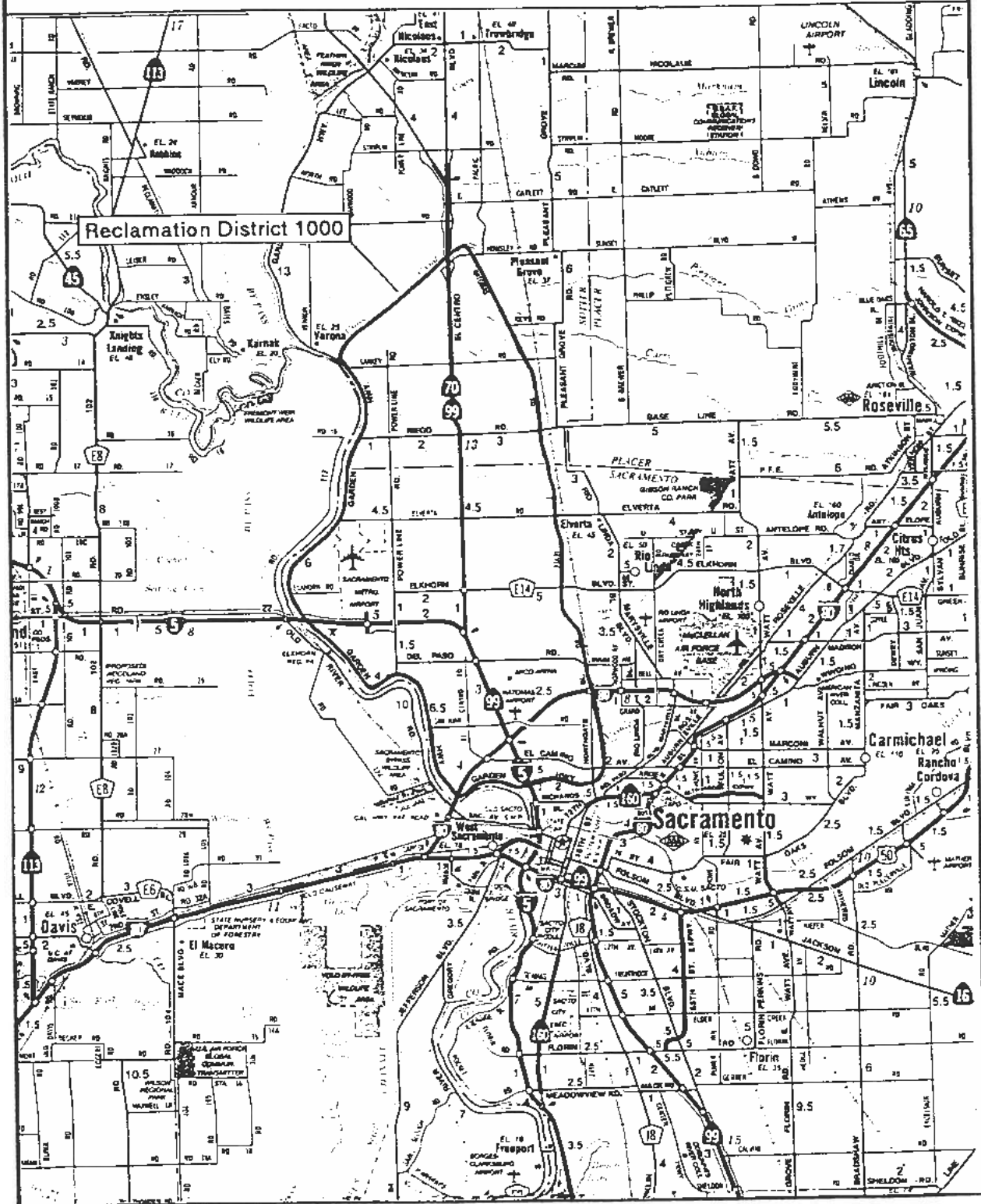
Reclamation District 1000

Source: California State Automobile Association

RD 1000

HAER NO. CA-187

Page 3



Composite of USGS 1:24,000 Series Quadrangles:

Verona 1978

Rio Linda 1975

Pleasant Grove 1981

Sacramento West 1980

Grays Bend 1975

Sacramento East 1980

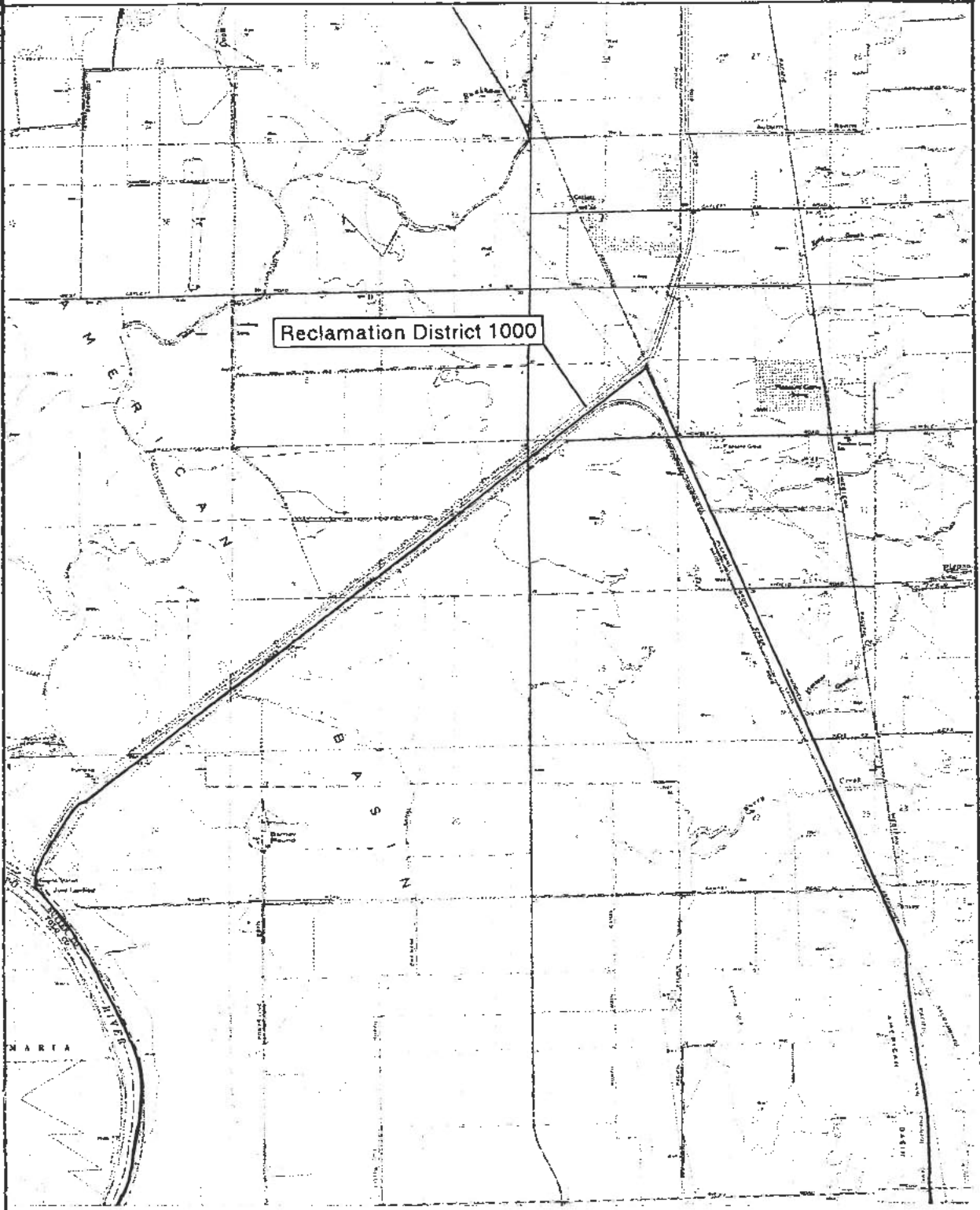
Taylor Monument 1980

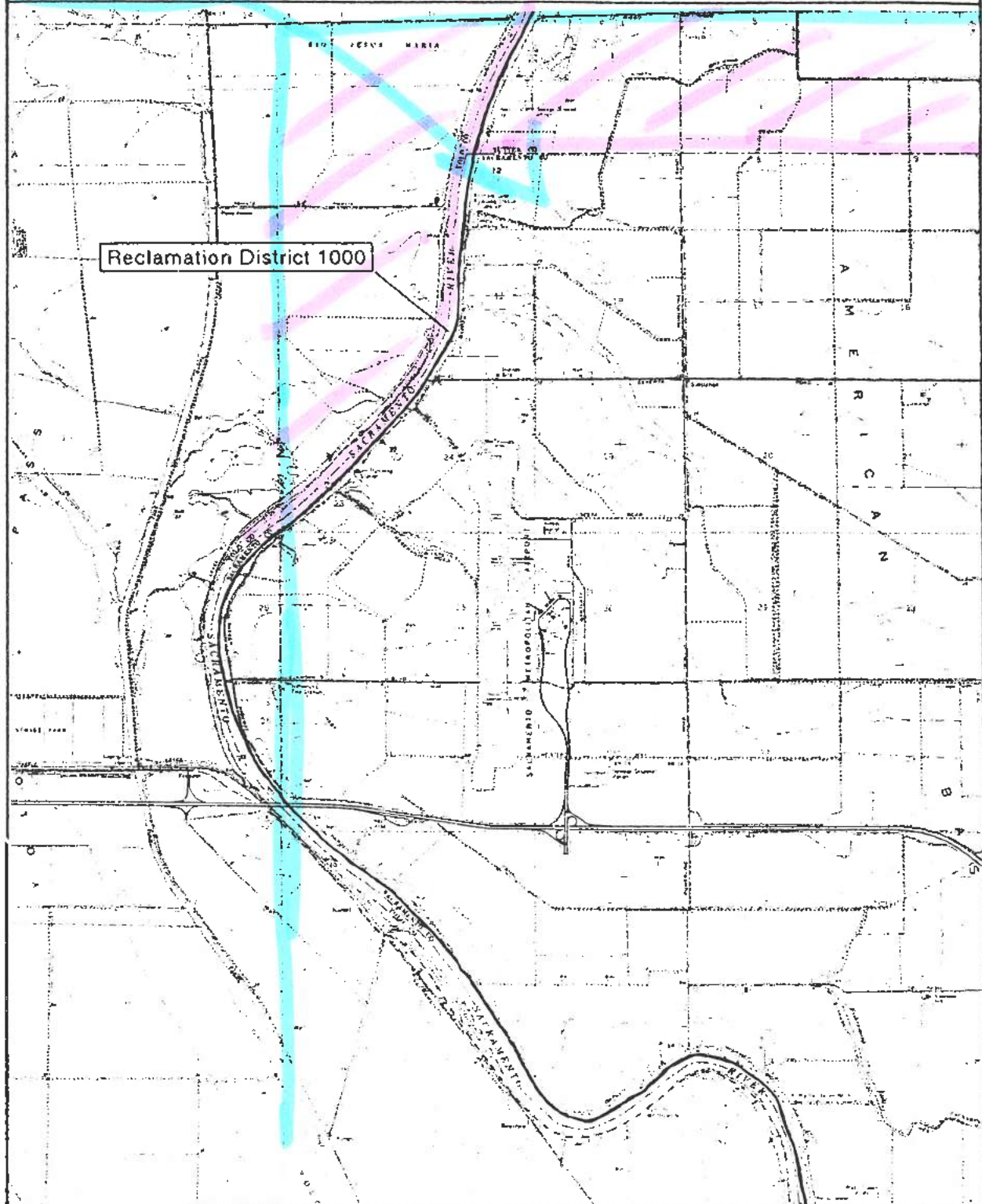
RD 1000

HAER NO. CA-187

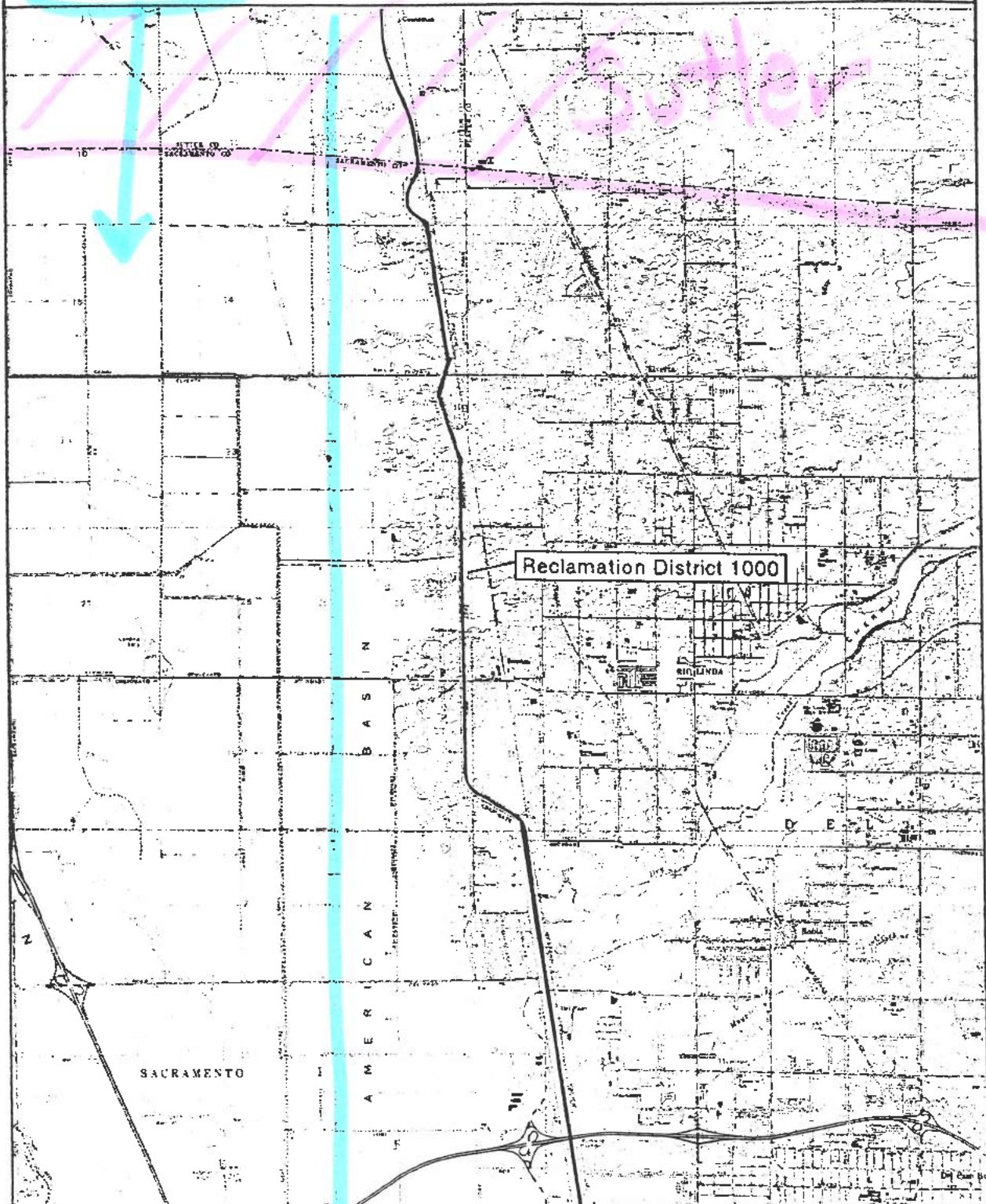
Page 4

Scale: 1 inch = 1 mile





Scale: 1 inch = 1 mile



Composite of USGS 1:24,000 Series Quadrangles:

Verona 1978

Rio Linda 1975

Pleasant Grove 1981

Sacramento West 1980

Grays Bend 1975

Sacramento East 1980

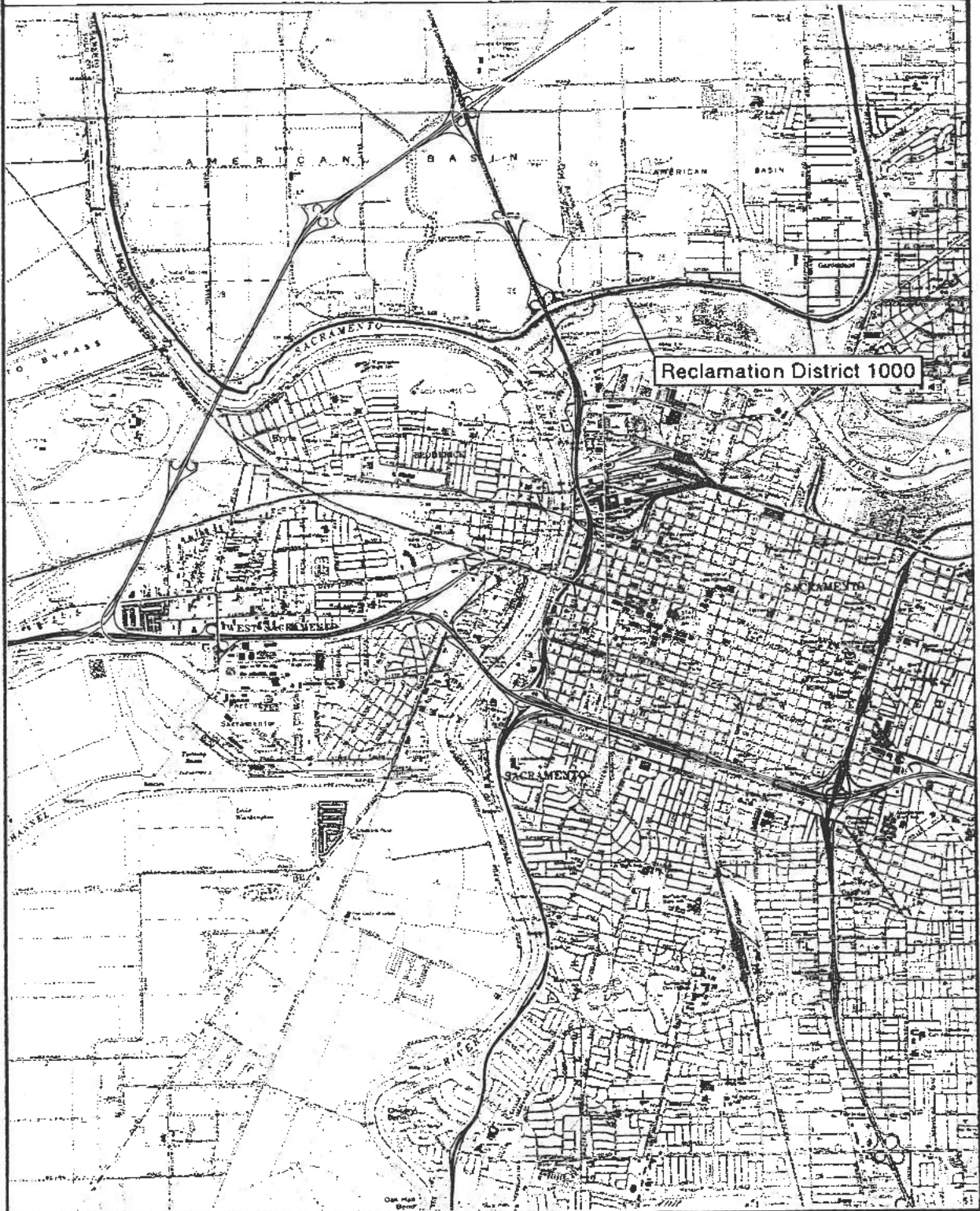
Taylor Monument 1980

Scale: 1 inch = 1 mile

RD 1000

HAER NO. CA-187

Page 7



function of the canal within the drainage system) remain unchanged. The land uses and vegetation along the canal evolved over time and are discussed in the following descriptions.

East Levee

The East Levee extends from the northeastern corner of the district, where it intersects the Cross Canal Levee, along the eastern edge of RD 1000. It ends at the River Levee in the southwestern corner of the district. The Natomas/East Levee Road runs along the crown of the levee on the eastern side of the district. The Garden Highway runs along its crown on the southern side of the district. The portion of the levee along the southern boundary of the district was originally 20 feet wide at the crown and was widened to 40 feet in 1939 when the Corps of Engineers (Corps) constructed a wharf at the Natomas Main Drainage Canal. Otherwise, the levee has remained unchanged; its location, materials, and design (function within the drainage system) remain the same.

Natomas East Main Drainage Canal

Natomas East Main Drainage Canal extends from Sankey Road southward along the eastern edge of RD 1000. The ownership of this canal is held by RD 1000, the Sacramento Land Company, and private parties. The East Levee and canal forms the southern boundary of the district and meets the River Levee at the Sacramento River. Along the southern edge of RD 1000, the canal also forms the northern edge of Discovery Park, which is a part of the American River Parkway. The canal is 14.51 miles long. The levee protects the district from streams, such as Dry and Arcade creeks, that once drained into the basin. The canal intercepts the water and conveys it to the Sacramento River. The canal has remained unchanged; its location, materials, and design (function within the drainage system) remain the same.

Pleasant Grove Canal and Levee

The Pleasant Grove Canal begins just north of Sankey Road and continues northward until it intercepts the Cross Canal. Water from the Pleasant Grove Canal and the East Side Canal (located along the eastern boundary of RD 1001) drain into the Cross Canal. The canal has remained unchanged; its location, materials, and design (function within the drainage system) remain the same.

Cross Canal and Levee

The Cross Canal and Levee separate RD 1000 and RD 1001; they are the northern boundary of RD 1000 and the southern boundary of RD 1001. It is owned jointly by RD

1000 and RD 1001 with the dividing line down the middle of the canal. The levee protects the district from land runoff in RD 1001 and from streams to the north and east that once drained into the basin. The canal carries the water westward to the Sacramento River. The Cross Canal and Levee begins at the intersection of the Pleasant Grove and East Side Canals in the northeast corner of the district and runs southwesterly to the Sacramento River. According to Silsbee, the levee has been raised and strengthened twice. The first time was after flooding during 1938-1939, when high water in the canal threatened to top the levee; the second time was during 1955 after flooding in RD 1001. The overall location, materials, and design (function of the canal within the drainage system), however, remains unchanged.

INTERIOR DRAINAGE CANAL SYSTEM

The interior drainage canal system has four branches: the North, East, and West drainage canals, and the Natomas Main Drainage Canal. The location, materials, and design (function within the drainage system) of the canals have remained unchanged.

North Drainage Canal

The North Drainage Canal drains the northwestern portion of the district and begins at the Cross Canal approximately two miles east of the Sacramento River. It continues south through the district for approximately four miles at which point it turns to the west and continues southwesterly until it intersects with the River Levee. Pump Plant No. 2 is located at this point. The canal follows its original layout. Its location, materials, and design (function within the drainage system) remain unchanged.

East Drainage Canal

At the point where the North Drainage Canal turns to the west, the East Drainage Canal begins. The canal goes in a southerly direction until it meets Elverta Road. It then continues east following Elverta Road for about a mile and a half. At this point the canal turns 90 degrees to the south and goes under the road via a concrete culvert. The East Drainage Canal continues southward until it intersects the West Drainage Canal to form the Natomas Main Drainage Canal. This canal drains the eastern portion of the district. The canal follows its original layout; however, a portion of the canal in the vicinity of the intersection of Interstates 5 and 80 (I-5 and I-80) is now underground. Its location, materials, and design (function within the drainage system) remain unchanged.

West Drainage Canal

The West Drainage Canal begins at the River Levee on the north side of Elkhorn Boulevard. It drains the western portion of the district that is south of the North Drainage Canal. The canal continues in a southeasterly direction until it intersects with the East Drainage Canal to form the Natomas Main Drainage Canal. A portion of the canal runs through Fishermans Lake. The West Drainage Canal meets the East Drainage Canal to form the Natomas Main Drainage Canal just north of I-80 approximately one-half mile south of the I-5 and I-80 intersection. Its location, materials, and design (function within the drainage system) remain unchanged.

Natomas Main Drainage Canal

The Natomas Main Drainage Canal is formed by the intersection of the East and West drainage canals just north of I-80 approximately one-half mile south of the I-5 and I-80 intersection. It continues from this point south for a little over one mile to meet the Sacramento River at Pumping Plants No. 1-A and 1-B. The canal follows the general route of the Second Bannon Slough, although it was dredged to widen and deepen the slough to facilitate drainage. Its location, materials, and design (function within the drainage system) remain unchanged.

Drainage Ditches

In addition to these main drainage canals, there is a system of approximately 150 miles of smaller ditches. These ditches were built by the Natomas Company. They are either located on rights-of-way or are owned by the individual landowners. They transport water from the field to the drainage canals and are maintained by RD 1000. These ditches, along with the right-of-way roads (see circulation system description), form the individual fields within the larger spatial pattern. They are an additional layer of the large grid of fields formed by the canals and roads, and are located throughout the district.

PUMPING PLANTS

— Pumping Plant No. 1-A

The first and largest pumping plant was originally designated Pumping Plant No. 1, but was re-designated Plant 1-A when a second plant (Plant 1-B) was built at the site in 1959. The plant is located at the southern end of RD 1000 on the Sacramento River, about one mile west (upstream) of its confluence with the American River. It is the

terminus of the Natomas Main Drainage Canal. The entire drainage canal system was designed to empty into this canal and be discharged by Pumping Plant 1-A.

Construction of Pumping Plant No. 1 began in 1914 and was completed in late 1915. However, the plant was first operated on December 23, 1914 before construction was completed. The original pumping equipment consisted of three Byron Jackson and one Platt 50-inch centrifugal pumps. Two Byron Jackson pumps were directly connected to 600-horsepower (hp) General Electric motors and the other pumps were directly connected to 650-hp Westinghouse motors. The three-phase, 60-cycle, type "CCL" Westinghouse motors turned at 247 rpm. Each pump had a rated capacity of 65,000 gallons per minute at a head of 24 feet, for a combined capacity of 578 cubic feet per second, or 52 acre-feet per hour, for all four pumps.

Intake for each pump was taken by means of a 50-inch-diameter pipe constructed of ¼-inch riveted steel plates. These suction pipes extended 10 feet below normal water level into a sump (or underwater pit) at the bottom of the former slough. Each pump was equipped on the discharge side with a 50-inch, motor-operated gate valve which could be fully opened or closed in 2 minutes. After passing through the pumps and gate valves, water was discharged into two parallel, arched conduits with 12-inch reinforced concrete walls. The conduits were about 300 feet long and passed under the levee, each conduit branching into two passageways about 100 feet from the river. Water was discharged into the river through 5-foot by 7-foot hand-operated sluice gates backed by steel-framed wooden flap gates.

The pumping equipment was housed in a building measuring 30 feet wide by 80 feet long by 24 feet high. Unlike another pumping plant built at the same time for RD 1001, directly north of RD 1000, this building was not designed to be a watertight part of the levee because it was sited within the area to be protected by it. The building had a reinforced concrete foundation and 28-inch reinforced concrete floors. A steel skeleton with latticed columns and trusses supporting a galvanized iron roof was then erected and enclosed with walls of interlocking tile. Girders between columns supported a 10-ton, manually operated overhead crane to facilitate installation and subsequent servicing of the pumping machinery. As a precaution against flooding, switchboard equipment was installed in a gallery, which also allowed operators an overview of the pumping equipment. To save on costs, electrical switching and control equipment for the pumps and motors were kept as simple as possible, requiring manual operation. Three water-cooled transformers which stepped line current from 54,000 volts to 1,100 volts for starting the motors and 2,200 volts for running them were housed in a separate building.

The pumping plant still stands, with some alterations to the equipment and structure. The pump motors were re-wound in 1958. In 1989, the discharge structure was shortened by 15 feet at the river end, where undercutting by wave action had left it unsupported, and the gate and flap valves were overhauled and repaired. A refurbishing of the pumping plant was undertaken in 1990-1991. The original, hand-operated electrical controls in the gallery were replaced with automatic controls and the impellers of all four pumps were replaced with new impellers cast on the original shafts. The original, riveted intake pipes were replaced with welded steel intake pipes, safety railings were added to catwalks and platforms, the original, six-over-six double-hung sashes were replaced with sheet glass, and doors and lighting fixtures were replaced. The location and function of the plant remain unchanged; however, it has been augmented by the pumps as described below.

- Pumping Plant No. 1-A is part of the historic drainage system within RD 1000. Its location and design (function within the drainage system) remain unchanged. Changes to its materials are the result of modernization required to maintain the function of the plant.

- *Pumping Plant No. 1-B*

Pumping Plant No. 1-B was installed at the Natomas Main Drainage Canal adjacent to Pumping Plant No. 1-A in 1959. It consists of two vertical-lift pumps driven by 300-hp, synchronous motors, each delivering the equivalent of 600-hp, with each having a capacity of 10 acre-feet per hour. The pumps are housed in a corrugated metal building elevated above flood level on steel columns. One pump is automatically controlled and serves as RD 1000's primary facility for all but heavy storm and maximum irrigation runoff periods.

Pumping Plant No. 1-B is not a part of the historic drainage system.

- *Pumping Plant No. 2*

This plant is located on the Sacramento River near Pritchard Lake, about 12 miles north of Pumping Plant No. 1. This site was selected because it was on ground that was higher than the surrounding reclaimed land. Thus, one plant at this location could serve two functions--drainage and irrigation. By excavating a deep drainage canal, the North Drainage Canal, to this point, water could be drained by gravity from the 16,000 acres in the northwestern portion of RD 1000. It could then be pumped into the Sacramento River outside the levee, or into the irrigation canal for re-distribution by gravity.

Construction of the plant began in July 1915 and was completed by the end of October 1916. It was first operated on January 13, 1916, before the plant was completed.

The plant is located in a large, excavated hollow so that the pumps sit below water level. These originally consisted of two 36-inch Allis-Chalmers centrifugal pumps directly connected to two 300-hp Westinghouse type "CS" three-phase, 60-cycle induction motors turning at 230 rpm. The pumps were rated at 35,000 gallons per minute at a 24-foot head, for a combined capacity of 155 cubic feet per second or 13 acre-feet per hour. Two 36-inch intake pipes took suction from a sump at the end of the drainage canal. The bottom of this sump was 10 feet below the water level of the canal and 8 feet below the low water level of the river. A 48-inch pipe with a gate valve at the sump end led from the river to the sump. When this valve was opened, the sump could be filled with water from the river. When it was closed, water could be discharged from the pumps through the pipe into the river. Sets of gate valves on the discharge sides of the pumps allowed water to be directed to the 48-inch river pipe or to two 36-inch pipes leading into the irrigation canal. The pumping equipment was housed in a corrugated metal building.

Pumping Plant No. 2 was rebuilt in 1976, at which time the original pumps were replaced by a 200-hp, vertical-lift pump owned jointly by RD 1000 and the Natomas Central Mutual Water Company, and a 300-hp, vertical-lift pump owned by RD 1000. The building which housed the original pumps was demolished in 1991.

Pumping Plant No. 2 is a part of the historic drainage system. The location and design (function of the pump within the drainage system) remain unchanged. Changes to its materials are the result of modernization required to maintain the function of the plant.

Pumping Plant No. 3

Pumping Plants Nos. 1 and 2 were designed to drain a runoff of $\frac{3}{8}$ inch in 24 hours. A flood in 1938 proved this capacity to be inadequate, and a special assessment was levied within the reclamation district to construct a third pumping plant which would increase drainage capacity to $\frac{1}{2}$ inch in 24 hours. Pumping Plant No. 3 (ca. 1939) is located about one and a quarter miles north of San Juan Road on the Garden Highway. A new branch canal about one-half mile long was cut between the West Drainage Canal and the Sacramento River Levee. Original pumping equipment consisted of three, 200-hp, 36-inch Pomona, vertical mix-flow pumps with automatic electrical controls and a combined capacity of 9 acre-feet per hour.

During a refurbishment in 1992, all of the original pumps were replaced. Two of the pumps were replaced with pumps of similar capacity as the original pumps, but one

pump was increased to 300 hp. The horsepower rating of an original motor was increased by rewinding its armature to power this pump.

Pumping Plant No. 3 and its branch canal are a part of the historic drainage system. The location and function of the pump and canal within the drainage system remain unchanged. Changes to its materials are the result of modernization required to maintain the function of the plant.

Pumping Plant No. 4

Pumping Plant No. 4, built in 1964, originally consisted of one 300-hp, vertical-lift pump located on the Cross Canal at the North Drainage Canal. Two additional pumps have been added: a 400-hp pump was added in 1985 (becoming operational in 1986) and another 400-hp unit in 1989.

Pumping Plant No. 4 is not a part of the historic drainage system.

Pumping Plant No. 5

Pumping Plant No. 5 was installed in 1965 to accommodate runoff from the Sacramento Metropolitan Airport. The costs for operating and maintaining this plant are paid by Sacramento County. The plant discharges from an extension of the West Drainage Canal into the Sacramento River about one mile south of the I-5 bridge. The plant originally consisted of one 100-hp, vertical-lift pump with a capacity of 2.5 acre-feet per hour, which subsequently was augmented to a total of three such pumps.

Pumping Plant No. 5 and its branch canal are not a part of the historic drainage system.

Pumping Plant No. 6

Pumping Plant No. 6, installed in 1974, consists of three vertical-lift pumps: a 125-hp unit, a 200-hp unit, and a 300-hp unit. This plant was constructed pursuant to an agreement with the City of Sacramento to handle storm-drain runoff from developed areas in the southeastern part (South Natomas) of RD 1000. Its branch canal connects to the East Drainage Canal midway between Elverta and Elkhorn Roads.

Pumping Plant No. 6 and its branch canal are not a part of the historic drainage system.

Pumping Plant No. 7

Plans were made for a pumping plant (Pumping Plant No. 7) at the intersection of I-80 and Northgate Boulevard under an agreement with the City of Sacramento, and right-of-way was purchased in the late 1970s. The plant was not constructed, however, and Pumping Plant No. 8 now serves the area originally intended for this plant.

Pumping Plant No. 8

Pumping Plant No. 8 is located near the north end of Northgate Boulevard about 3/4 of a mile north of the site originally intended for Pumping Plant No. 7. It was constructed in 1983 and has a combined capacity of 47 acre-feet per hour. Pumping Plant No. 8 drains the area south of Del Paso Road, east of the East Levee, north of I-80, and west of the East Drainage Canal. A branch canal was built that connects to the East Drainage Canal.

Pumping Plant No. 8 and its branch canal are not a part of the historic drainage system. They were built after the period of significance had ended. It augments, but does not change, the original design of the system.

Road System

Today, the road system built by the Natomas Company as part of its reclamation plan for RD 1000 remains intact. All of the major roads exist, and they and the canal system continue to define the overall spatial pattern of the district; they continue to define large blocks of fields. It is only in the southern portion of the district (south of I-80; east of Sorrento Road; south of Del Paso Road between I-5 and the East Levee) that there have been any additions to the road system. It is of note that it is in this area that the overall spatial patterns of the district have changed. The addition of roads in the south as commercial and residential development increased resulted in the breakup of the large field patterns or blocks of land that are characteristic of this landscape. However, just as visible as this change is the continuity of the large open spaces and blocks of fields that exist in the rest of the district. Here the roads continue to function in the same way; they are for the most part two-lane, rural roads providing access across and through the district. They are surrounded by open, agricultural fields in the same way as they would have been in the 1920s or 1930s.

There are places that the two-lane roads are wider than they would have been in the period of significance (1911-1939); this change is comparable to the modernization of

pumps in the pumping plants. The roads were widened to conform to modern highway standards. The roads still maintain their historic location (alignment) and design (function within the overall road system), and they continue to define the spatial framework. This widening is evident as paved shoulders or as wider lanes. This tends to be found in the portion of roads that are east of State Route 70/99 (SR 70/99). The portion of the roads on the west side of SR 70/99 tend to lack paved shoulders and maintain their historic character to a greater degree. Exceptions to this are Del Paso Road and San Juan Road on the east side of I-5; here these roads have lost their historic character. Del Paso is now a four-lane road and San Juan is a two-lane and four-lane road. El Centro Road is the other historic road that has noticeably changed in character and function. It is now SR 70/99 north of I-5 and is a four-lane divided highway. Descriptions of the individual roads are provided below.

GARDEN HIGHWAY

Today, the Garden Highway still follows its original route, although the southern portion of the road between Northgate Boulevard and Orchard Lane has been widened to provide for increased traffic in this portion of the district. The highway leaves the top of the levee at two places between Northgate Boulevard and the office of RD 1000: at its intersection with I-5 and from approximately 1,500 feet west of Northgate Boulevard to Northgate, its southern terminus. The area from Northgate Boulevard to the office of RD 1000, 1633 Garden Highway, goes through an intensely developed area of housing, office parks, and businesses. There are street lights, traffic signals, and paved shoulders, none of which were a part of the original road. The road varies from two lanes to four lanes along this section. The character of the road is very different from that north of the RD 1000 office. The portion of Garden Highway from Orchard Lane to Northgate Boulevard maintains its function within the road system; however, the location (alignment) and materials of the road have been changed.

From the RD 1000 office northward, the road retains its rural character and provides a means of viewing the agricultural lands of RD 1000 and the Sacramento River. It is a two-lane, paved road with 4-foot graveled shoulders. The Garden Highway continues north to the Cross Canal, the northern boundary of RD 1000. It then continues along the crown of the River Levee in RD 1001 to about one-half mile north of Nicholas. It is bounded by residential housing mixed with open space on the river (west) side and agricultural land on the east. The portion of Garden Highway from Orchard Road to the Cross Canal retains its original location, materials, and function within the road system.

EAST LEVEE/NATOMAS ROAD

East Levee/Natomas Road follows the East Levee from Northgate Boulevard to Howsley Road. The road is called East Levee Road in Sacramento County and Natomas Road in Sutter County. It is a narrow, paved, two-lane road. The road retains its original alignment and width. In the southern portion of the district, from Northgate Boulevard to Del Paso Road, the road passes along the edge of housing and commercial development. It is only north of Del Paso Road that the development lessens and the road is again connected to agricultural land. The road has been gated between West El Camino Road and Del Paso Road; it is a gravel road for this section. From the East Levee/Natomas Road, there is a panoramic view of the flat, agricultural land of RD 1000 to the trees along the River Levee in the horizon. The location, materials, and function of the East Levee/Natomas Road within the overall road system remain unchanged.

The lateral road system consists of six roads running east/west and two roads running north/south. The east/west road system generally follows the land survey system. These six roads are roughly equidistant and are approximately two miles apart. The roads in the northern, agricultural portion of the district are the least changed. They are two-lane, paved, rural roads through agricultural fields. The roads in the southern portion of the district have been improved (widened) to meet the demands of increased traffic, although they generally maintain their original location (alignment) and function within the road system and continue to define spatial patterns.

SANKEY ROAD

Sankey Road is the northernmost of the east/west roads within RD 1000. It begins at the Garden Highway at Verona (Joe's Marina) and goes easterly across the district to the Cross Canal. It crosses the canal via a bridge and continues until it intersects Locust Road at the Sutter/Placer County boundary. It is a two-lane, rural road through rice fields from Garden Highway to Powerline road; from Powerline Road to SR 70/99, it is a gravel road; then from SR 70/99 to Natomas Road, it is a paved road. It has retained its location, materials, and function.

RIEGO ROAD

Two miles south of Sankey Road is Riego Road. Riego Road begins at the Garden Highway and continues easterly to the Natomas East Main Drainage Canal. It crosses the canal and continues as Base Line Road through Sutter County into Placer County. The road is along the baseline between Township 11N and Township 10N. It is a paved, two-lane rural road. It retains its historic location, alignment, materials, and function.

ELVERTA ROAD

Two-and-one-half miles south of Riego Road is Elverta Road, the second of the lateral roads that pre-dates the reclamation efforts. It begins at the Garden Highway and continues eastward across the district. It crosses the Natomas East Main Drainage Canal and continues through Sutter and Placer counties as Elverta Road until it intersects Watt Avenue. From Garden Highway to SR 70/99, Elverta Road has retained its historic location, alignment, and function. From SR 70/99 to Natomas Road, it is still a two-lane road, although it has been widened with paved shoulders.

ELKHORN BOULEVARD

Two miles south of Elverta Road is Elkhorn Boulevard. It begins at the Garden Highway, but it is no longer a continuous road across the district. It stops at the western boundary of the Sacramento Metropolitan Airport, starts again at the airport's eastern boundary, and continues eastward across the district to the Natomas East Main Drainage Canal. It crosses the canal and continues through Sutter and Placer counties as Elkhorn Boulevard. From Garden Highway to the western boundary of the airport, Elkhorn Boulevard retains its historic location, materials, and function. It is a narrow, paved, two-lane, rural road. From the eastern boundary of the airport to Natomas Road, the alignment of the road appears to have been shifted slightly. The original road bed is still visible; to the south of the current road from Powerline to SR 70/99; and north of the current road from SR 70/99 to Natomas Road. The road is still two lanes in these areas, but it has been widened and now has paved shoulders. Even with these changes, the road still maintains its historic function within the overall road system as access through the district and as part of the spatial, organizing framework of the district.

DEL PASO ROAD

Two miles south of Elkhorn Boulevard is Del Paso Road. It begins at Powerline Road and continues eastward across the district to the Natomas East Main Drainage Canal. It crosses the canal and becomes Main Avenue. The road retains its original alignment. From Garden Highway to west of I-5, the road retains its historic function. In this section, it is a two-lane road with narrow, gravel shoulders and is surrounded by agricultural land. East of I-5 to East Levee Road, it becomes a four-lane road with paved shoulders. The Arco Arena is located just east of I-5 off Del Paso Road. The land south of Del Paso Road between the interstate and Sorrento Road is now vacant, and it is not used for agriculture. The area east of Sorrento Road to the levee contains

housing and commercial developments and has no connection to its agricultural past. Del Paso Road, east of I-5, serves as a dividing line between agricultural land to the north and land that is developed to the south.

SAN JUAN ROAD

San Juan Road, two miles south of Del Paso Road, was part of the original road network, unnamed on the 1921 district map. It begins at the Garden Highway and continues eastward till it intersects Northgate Boulevard and ends. It originally ended about three-quarters of a mile east of Northgate Boulevard (Lower Marysville Road). From Garden Highway to west of I-5, the road has retained its historic alignment and function. West of I-5, it still goes through agricultural fields, albeit fields that are increasingly under the same development pressure that has already transformed the area south of I-80. East of I-5, the road no longer has a connection or association with its rural past. It is an improved, two- and four-lane road through large, residential subdivisions.

BAYOU WAY

Bayou Way historically traversed the district from one half mile west of Powerline Road to East Levee Road. Today, it exists as a parallel access road south of I-5. Its alignment has been adapted to provide access to I-5 and it now bears little relationship to its historic location or function. Today, it begins at Airport Boulevard and continues eastward until it intersects El Centro Road. It does not contribute to the reclamation landscape of RD 1000.

There were two main north/south lateral roads: Power Line Road and El Centro Road.

POWERLINE ROAD

Powerline Road is a paved, two-lane road. It begins at the Garden Highway and continues northward, past Barney Mound. At Barney Mound the road is gated and it continues unpaved through a field for approximately one quarter mile. The road retains its historic location, materials, and function within the road system. By driving along the length of this road, it is possible to experience the scale of the district and to see its connections to the historic setting, association, and feeling that set RD 1000 apart from the surrounding area. It still travels through large, open, agricultural fields, although the area south of I-5 is increasingly under pressure as commercial and residential development from South Natomas spreads westward.

EL CENTRO ROAD

El Centro Road originally began at the Garden Highway and continued northward to San Juan Road. It then began again just north of the West Drainage Canal and continued to Riego Road. Today, the road begins at Garden Highway and ends south of I-80. The alignment of this portion of the road has been changed since 1939. The road then resumes north of I-80 and continues as a two-lane, paved road until it intersects with Bayou Way. This portion of the road maintains its historic location and still contributes to the spatial organization of this area. The road begins again north of I-5 as SR 70/99 and continues to the boundary of RD 1000 at which point it crosses the Cross Canal and continues into RD 1001. The portion of the road from Riego Road to the Cross Canal was not a part of the original road system. SR 70/99 is a major, regional connector to Marysville and Yuba City. It is a four-lane, divided highway. The road in effect cuts the district into two sections, and although it is surrounded by agricultural land, the width of the road, like that of an interstate, separates it from its surroundings. The road no longer serves as a portion of the spatial framework. This change of function along with the changes to alignment and materials results in it being a noncontributor to the reclamation landscape.

UNPAVED RIGHTS-OF-WAY

There is another layer of the historic road system that continues to exist today; these are the unpaved roads that serve as rights-of-way between fields. These roads existed on the 1921 map and 1937 aerial photographs. They for the most part are unnamed, although there are older road signs throughout the district that designate some of these roads. Descriptions of several of those that were named on the 1921 map are given below as examples. Driving on any of these graveled roads provides access to the landscape and adds to the historic setting and feeling of the landscape. They are a strong connection to the rural landscape that was experienced via narrow, unpaved roads at a slower pace and in relative isolation from the development of South Natomas and Sacramento.

Meister Avenue

Meister Avenue originally began at School House Road and continued to El Centro Road. It was located south of Elkhorn Boulevard and north of Bayou Way. Today, Meister Avenue still exists as an unpaved road, although it is on property owned by the Sacramento Airport.

Lone Tree Road

Lone Tree Road historically was located between Powerline Road and El Centro Road. It was a north/south road that began at the West Drainage Canal and continued northward until it intersected the East Drainage Canal. Today, Lone Tree Road continues to exist as an unpaved right-of-way road in the same location.

Miller Road

Miller Road (Bryte Bend Road) historically began at Garden Highway and continued north to San Juan Road. Today, it continues to exist as an unpaved, right-of-way in the same location.

Reservoir Road

There is another group of gravel roads located just west of the Sacramento Airport: Delta, Reservoir, Walnut, and School House roads. These roads are accessible from Garden Highway at the location of the Elkhorn irrigation pumping plant. They provide access to fields and to houses located along Reservoir and Walnut roads.

NEW ROADS

The addition of new roads has been largely confined to new development in the southern portion of the district (south of I-80 and south of Del Paso Road between the East Levee and I-5). There are numerous new local roads that are a part of housing and office park developments built in the 1970s and 1980s; however, the two interstates have had the greatest impact on the district. Interstates 5 and 80 now bisect the landscape of RD 1000 and provide regional access. I-5 provides access to the north and south. It has interchanges at Garden Highway, West El Camino Avenue, San Juan Road, Del Paso Road, and Airport Boulevard. I-80 provides access to the east and west, with interchanges at Northgate Boulevard, I-5, and West El Camino Avenue.

Both of these interstates are imposing visual features in the flat landscape. They have contributed to the real estate development in the southern portion of the district. Interstates have a way of neutralizing the distinguishing characteristics of the landscapes they travel through, and this is true in RD 1000. These interstates have no connection to the historic road system, land use, or other characteristics of the district's landscape; they were developed through and over these features, and disrupt the rhythm and scale of the landscape. The connection they provide to the region has removed some of the isolation that is inherently a part of a rural landscape.

Large Scale Land Patterns

The patterns of spatial organization in the early reclamation landscape of RD 1000 were a product of drainage canal and ditches and the road system both elements of Natomas' reclamation plan. The landscape is contained within the boundaries defined by the levees that encircle the district. The levees as well as the other major elements of the reclamation plan were designed by engineers. They first laid out the interior drainage canals in precise and largely straight lines. Then they laid out the land divisions and roads to follow the rectilinear land survey system that predated the reclamation plan. The land was sold in much larger acreages than had been platted, so the spatial patterns that would have resulted from 55,000 acres of small, 40-acre, family farms did not materialize. The landscape was characterized by large blocks of fields. The fields were created by intersections of canals and roads. This pattern continues with the intersection of smaller ditches and unpaved rights-of-way. This spatial pattern has continued to characterize the landscape of RD 1000. Aerial photographs from the 1930s through 1990s graphically illustrate this pattern. They also illustrate the distinctiveness of this pattern within RD 1000. Land to the north in RD 1001 resembles RD 1000 to a great degree. However, land to the east and south of the East Levee is divided into much smaller parcels and does not contain the same character or spatial organization.

The field patterns are reinforced by other linear elements in the landscape: the ditches that border the fields and line both sides of the roads, the trees and plants that grow along the canals and ditches, the telephone poles along the roads, and fence lines. Farmsteads were clustered along the Garden Highway or in isolation along one of the main roads through the landscape. This is still the case in the area that contributes to the reclamation landscape, although there are now more buildings within the landscape. The basis for determining the historic spatial organization was an examination of 1937 aerial photographs. Roads and canals from a 1921 map and early topographic maps were identified. Current USGS maps and 1984 and 1991 aerial photographs were compared to the 1937 aerials to identify canals, ditches, roads, and rights-of-way that have remained unchanged. It is not coincidental that the areas that maintain their historic land patterns are the areas in which the drainage canals and roads are unchanged.

The acceleration of commercial and residential development in South Natomas in the 1970s was the catalyst for changes to this spatial organization in the southern portion of the district. Development before the 1970s merely infilled existing field patterns and relied on existing street patterns. Development since the 1970s bears no relationship to historic field patterns, canals, and streets. I-5 and I-80 have also changed the spatial organization of the southern portion of the district. These two highways have no physical

connection to the reclamation plan of RD 1000. They were not built to respond or contribute to the existing pattern of the levees, canals, roads, or fields within the district. Development since the 1970s, together with the construction of the interstates, is creating a pattern of spatial organization different in scale, shape, and density to what existed in the south prior to the interstates' presence.

The original pattern of spatial organization has been lost in the area south of I-80. Large fields are no longer predominant in this area. Housing and office developments do not relate to the form of field patterns. New roads have been built to supplement historic roads. The landscape is not structured or defined by the drainage system. The open vistas of the landscape have been broken by the dense buildings that now characterize this part of RD 1000.

The portion of the landscape south of Del Paso Road, east of I-5, and north of I-80, is in transition. The description in the preceding paragraph could also be used to describe this area, although this area has more open space in the form of vacant fields. These vacant fields are the last reference to the spatial patterns of the reclamation landscape.

Noncontributing Resources

The noncontributing resources are as follows:

DRAINAGE SYSTEM

Pumping Plant No. 4; Pumping Plant No. 5 and its branch canal from the plant to its intersection with the West Drainage Canal; Pumping Plant No.6 and its branch canal from the plant to its intersection with the East Drainage Canal; and Plant No. 8 and its branch canal from the plant to its intersection with the East Drainage Canal.

ROAD SYSTEM

Garden Highway from Orchard Lane to its intersection with Northgate Boulevard; Elkhorn Boulevard from the eastern boundary of the Sacramento Airport to East Levee Road; Del Paso Road from its intersection with I-5 to its intersection with East Levee Road; San Juan Road from its intersection with I-5 to its intersection with Northgate Boulevard; SR 70/99 (El Centro Road) from its intersection with I-5 north to the border of RD 1000; I-5; and I-80. All roads within the area bounded as follows: Sorrento Road to the East Levee Road; south of Del Paso Road between the East Levee and I-5; and south of I-80.

LARGE-SCALE LAND PATTERNS

The area bounded as follows: Sorrento Road to the East Levee; south of Del Paso Road between I-5 and the East Levee; south of I-80. The Sacramento Metropolitan Airport is the other area that is noncontributing; it is bounded by a chainlink fence around its perimeter; the area within this fence is noncontributing.

LAND USES AND ACTIVITIES, VEGETATION, BOUNDARY DEMARCATIONS, AND BUILDINGS AND STRUCTURES

Land uses and activities, vegetation, boundary demarcations, and buildings and structures in the contributing areas of the district are not directly associated with reclamation. They generally are more closely tied to agriculture. These include the irrigation system, farm structures and houses. Other structures and buildings are associated with community development and do not contribute to the reclamation landscape. These include schools, other municipal structures, commercial structures, electric powerlines, radio towers and microwave stations, and houses.

Land uses and activities, vegetation, boundary demarcations, and buildings and structures located in the noncontributing areas are noncontributors. They are directly tied to agriculture or the residential and commercial development of South Natomas rather than to the reclamation of RD 1000.

These noncontributing resources account for 16 percent of the land in RD 1000 and are concentrated in the southern portion of the district (Dames & Moore 1996).

Boundaries

The boundaries of the RD 1000 rural historic landscape district are as follows:

The northern boundary is the center of the Cross Canal, equidistant between the toe of the southern side of the RD 1001 Cross Canal Levee and the toe of the northern side of the RD 1000 Cross Canal Levee.

The eastern boundary is the toe of the western side of the Sacramento Northern Railway levee from its intersection with the northern boundary southward to Sankey Road; at this point the eastern boundary is 200 feet east of the toe of the eastern side of the RD 1000 East Levee southward past Del Paso Road for six tenths of a mile; at this point the eastern boundary is the toe of the western side of the Western Pacific Railroad levee.

The southern boundary is the southern edge of the Natomas East Main Drainage Canal; at that point where the Natomas East Main Drainage Canal meets the Sacramento River, the southern boundary is the eastern (northern) edge of the Sacramento River.

The western boundary is the eastern edge of the Sacramento River.

Universal Transverse Mercator Coordinates

The contributing features and corresponding Universal Transverse Mercator (UTM) coordinates are as follows:

District

District:	2. 618 960 4291 880
	2. 627 660 4298 690
	2. 639 260 4274 440
	2. 618 740 4272 160

Drainage System

East Levee:	2. 627 600 4298 360
	2. 629 680 4273 670

River Levee:	2. 621 400 4293 130
	2. 629 680 4273 670

Cross Canal Levee:	2. 621 400 4293 130
	2. 627 600 4298 360

Natomas East Main Drainage Canal:	2. 630 660 4292 360
	2. 629 460 4273 440

Cross Canal:	2. 627 600 4298 400
	2. 621 340 4293 090

Pleasant Grove Canal:	2. 627 600 4298 400
	2. 630 300 4293 270

Pumping Plant No. 1-A:	2. 628 540 4273 890
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Pumping Plant No. 2:	2. 621 560 4287 640
Pumping Plant No. 3:	2. 625 060 4278 190
Canal connecting Pumping Plant No. 3 and West Drainage Canal:	2. 625 060 4278 190 2. 625 920 4278 200
North Drainage Canal:	2. 623 420 4295 190 2. 621 620 4287 620
East Drainage Canal:	2. 625 020 4289 340 2. 629 510 4276 360
West Drainage Canal:	2. 621 250 4281 050 2. 628 560 4275 680
Natomas Main Drainage Canal:	2. 628 600 4275 540 2. 628 560 4273 880
Drainage ditches within the areas of contributing large scale land patterns:	2. 611 960 4286 520 2. 627 660 4298 690 2. 635 120 4285 280 2. 626 580 4273 020
Road System	
Garden Highway from Orchard Lane north to the Cross Canal:	2. 621 320 4293 170 2. 628 180 4273 850
East Levee/Natomas Road:	2. 627 970 4298 020 2. 632 840 4273 850
Sankey Road:	2. 621 400 4293 130 2. 630 270 4293 240
Riego Road:	2. 622 320 4289 700 2. 630 050 4290 920

Elverta Road: 2. 621 210 4285 800
2. 631 600 4285 990

Elkhorn Boulevard from Garden Highway to the
western boundary of the Sacramento Airport: 2. 619 100 4282 560
2. 621 630 4282 580

Del Paso Road from Powerline Road to its
intersection with I-5: 2. 623 940 4279 410
2. 627 130 4279 400

San Juan Road from Garden Highway to its
intersection with I-5: 2. 625 420 4276 210
2. 628 960 4276 310

Powerline Road: 2. 623 660 4295 120
2. 623 970 4278 740

El Centro Road from north of I-80 to its
intersection with Bayou Way: 2. 627 130 4280 340
2. 627 280 4274 560

Right-of-way roads within fields in the areas of
contributing large scale land patterns: 2. 611 960 4286 520
2. 627 660 4298 690
2. 635 120 4285 280
2. 626 580 4273 020

Large Scale Land Patterns

Land area that is comprised of open fields formed by the intersection of the canals and roads in the area bounded as follows: west of the East Levee; west of Sorrento Road; north of Del Paso Road between the East Levee and I-5; west of I-5 from its intersection with Del Paso Road to its intersection with I-80; north of I-80 from its intersection with I-5 to the River Levee; east of the River Levee; and south of the Cross Canal Levee:

2. 611 960 4286 520
2. 627 660 4298 690
2. 635 120 4285 280
2. 626 580 4273 020

These contributing resources and large-scale land patterns account for 84 percent of the area within RD 1000 (Dames & Moore 1996).

II. HISTORICAL INFORMATION

The following history of the RD 1000 Rural Historic Landscape District is taken from the *Historic Properties Treatment Plan for Reclamation District 1000 Rural Historic Landscape District* (Dames & Moore 1996), summarized from the *Rural Historic Landscape Report for Reclamation District 1000* (Bradley and Corbett 1996), with minor editorial changes.

RD 1000 is one of a handful of major reclamation districts in the Sacramento Valley which were established following enabling legislation in 1911–1913 and which were a key element in the thorough social, economic, and physical transformation of the region in the period that followed. Before reclamation, the Sacramento Valley regularly flooded extensively; permanent settlements were repeatedly threatened, property destroyed, and lives lost. The framework for flood control in the Sacramento Valley evolved over 60 years, from the 1850s to 1910s, and came to involve not only flood control but reclamation and irrigation. Once the physical structures of reclamation (the levees, drainage canals, and pumphouses) and the associated flood control plan were in place, and the plan had been implemented over many years, the floods of the Sacramento Valley were largely contained, the land was drained, cleared of tules, developed for agriculture, and settled by farmers. What had been a vast seasonal swamp became some of the most productive agricultural land in California. What had been an unbroken, almost impassable region was ordered into productive reclamation districts which its builders described as the "Holland of California."

RD 1000 was among the first and the largest of these major reclamation districts, and because of its proximity to Sacramento, one of the most visible. To understand the history of RD 1000 and its particular significance, it is necessary to understand the complicated story of efforts at flood control and reclamation in the Sacramento Valley, as well as the history of the Natomas Company which created and developed it. The history which follows is organized to (1) present the context within which RD 1000 developed and against which it must be seen to understand its significance, and (2) the specific history of RD 1000 and its developer, the Natomas Company.

Setting

In its natural condition, the Sacramento River flooded almost every winter, creating a shallow lake over 100 miles long and up to 50 miles wide. Winter rains and spring runoff, especially from heavy snowfall in the Sierra Nevada, ran into the Sacramento River from the Yuba, Bear, Feather, and American rivers along the east and from Cache Creek and others along the west. The seasonal fluctuations in river flow were far greater

than in any other major North American river system which had been encountered as Euroamerican settlers made their way west across the United States. The Sacramento and other major rivers contained dry season flow within their banks but routinely flooded with winter rains. During flood time, natural levees were created along the banks of the rivers, and the river bottom gradually built up so that beyond the natural levees were natural basins, lower than the river. Floodwaters filled these basins, which took many months to gradually dry from seepage or runoff. The natural levees were the only high and dry ground during floods. When the annual seasonal lake finally dried up, usually by midsummer, the land that remained was nearly as impenetrable and useless for agriculture or grazing as the lake.

With the influx of people associated with the gold rush, conditions in the Sacramento Valley threatened travelers to the mines and threatened the new settlements, including Sacramento, Marysville, Yuba City, Colusa, and a few farmers along the levees. With the beginning of hydraulic mining in 1853, which washed whole mountains of rock and soil debris into the river system, the river beds began to rise. In the late 1860s, the scale and power of hydraulic mining increased substantially, the amount of debris washing into the rivers increased, the river beds continued to rise, and the effects of floods, which deposited rocky debris along what had been the best farmland along the banks of rivers, worsened.

Reclamation and Flood Control in the Sacramento Valley

Flooding, and its effect on the usefulness of land, was among the earliest public issues to face the new settlers to California. Because it proved to be an enormously difficult issue to deal with both politically and practically, flood control and protection continued to be at the forefront of important public issues for many decades. California became a state in September 1850, the same month that the U.S. Congress passed the Arkansas Act which granted all public swamp and overflow lands to the states. The state made provisions to dispose of these lands in 1855 and 1858 by delegating the survey of swamplands to the counties. Once the swamplands were surveyed, they could be sold to private parties (who had to meet various conditions before receiving the permanent title). Of the first buyers of swamplands, a few tried to direct floodwaters by building river levees, and drain flooded or flood-prone land by digging ditches. These first efforts to address the problem were the uncoordinated efforts of private individuals with minimal government involvement and had little or no effect on the problem.

An attempt to address the problem on a regional basis, coordinated by a centralized governmental authority, was made with the enactment of Assembly Bill (AB) 54 by the state in 1861. This established the first public commission in the state: the Board of

Swamp Land Commissioners. The fact that this was the first public commission and that such an entity represented a major innovation in state government is a measure of the public interest in the problem. Under AB 54, the Board of Swamp Land Commissioners could establish swamp land districts with boundaries equal to those of the natural basins, and could direct the building of levees and other structures. The American Basin, which entirely contains the area that later became RD 1000, was designated as Swamp Land District 1. Construction was begun in 1863, and by November 15, 1865, there were 26 miles of levees and 20 miles of drainage canals. The work was not completed because of the Civil War and the subsequent modification of AB 54 by the state legislature.

An action with a longer-lasting effect was the 1868 Green Act, which for the first time permitted the purchase of unlimited amounts of swampland (buyers had previously been limited first to 320 acres and then to 640 acres), and which allowed any group of swampland owners to form a swamp land district without regard for the relationship of the boundaries of that district to any natural basin, as was the case under AB 54. Utilizing the relaxed terms for receiving permanent titles to their lands, under the Green Act, swampland owners had gained greater control over swamp land districts, which were empowered to raise money for the construction of levees and other structures. The Green Act therefore resulted in a land rush and the buying up in large holdings of almost all of the still plentiful state-owned swampland by relatively few individuals. It also resulted in the establishment of many new swamp land districts. Although land holdings were larger, the swamp land districts were often comprised of fewer members, and sometimes included the property of just one individual.

While these various efforts and others were being made, the floods continued to occur as before. If anything, their effects became worse. The types of localized flood control measures taken often intensified flood damage, and the debris washed into the rivers by hydraulic mining continued to be deposited on more and more farmland. In 1878, a group of farmers formed the Anti-Debris Association to stop hydraulic mining. In January 1884, hydraulic mining was completely stopped by the courts. In 1892, the Caminetti Bill in the U.S. Congress established the California Debris Commission as a federal agency to address the ongoing problems of the washing of old debris into the rivers, because it created obstacles to navigation.

After 50 years of failed efforts to address either the political or the practical problems of flood control, a new consensus began to develop in 1902 about what needed to be done. This consensus was supported by an accumulation of scientific data, practical observation, and conceptual advances. The most important early studies were the 1880 report to the State Legislature by William Hammond Hall, the first State Engineer, with its survey of rivers; and the 1894 report to the State Commissioner of Public Works by

Marsden Manson and C.E. Grunsky, which included their plan for flood control. (Both men had worked for Hall in the State Engineer's office.) The Hall report verified the relationship of mining debris to navigation problems and flooding. The Manson and Grunsky plan broke with previous engineering studies and proposed a flood control system that incorporated weirs in the levees which would allow flood water into river "by-passes"; enlarged the mouth of the Sacramento River; and raised levees to a uniform height. This was essentially the plan that would eventually be adopted.

The first step in the development of a consensus was a meeting in Sacramento in 1902 of swampland owners. Then in 1903, the Commonwealth Club was formed in San Francisco as a forum for discussing major public policy issues, among which were flood control and reclamation. The Commonwealth Club sponsored the State River Convention in 1904 and issued a study calling for action on the problem. Out of this meeting, the River Improvement and Drainage Association was formed to study flood control and lobby for action.

The most important study was a report by Thomas H. Jackson (U.S. Army Corps of Engineers) for the California Debris Commission in 1910. The Jackson report clearly stated the connections between the issues of mining debris in the rivers, navigation, and flood control. It called for spending \$933 million on a Manson-and-Grunsky-type plan, including weirs and by-passes, raised levees, and a widened mouth of the Sacramento River. The Jackson report was the basis for a plan, the Sacramento Flood Control project, that was adopted by the state in 1911 and implemented over many years. Full implementation was delayed by funding problems, primarily the contribution of the U.S. government. It was first sent to Congress for funding in 1911, but the first funds were not approved until 1917, and substantial support did not come until the 1930s.

At the same time, a workable framework for flood control and reclamation was established by the state. In 1911, the State Reclamation Board was established with jurisdiction over the new Sacramento and San Joaquin Drainage District's individual reclamation districts and levee plans. Many new districts were created, superseding those created under the Green Act of 1868. RD 1000 was created at this time. In 1913, the State Reclamation Board was given the ability to approve private construction of levees while requiring that they meet the standards of the Sacramento Flood Control Plan. In the absence of federal money in these years, this was an essential feature of the beginning of construction on the plan. The reclamation districts were given the authority to raise taxes to finance the construction of the flood and reclamation plans.

These two developments might not have affected change without two other factors--the emergence of modern corporations as land owners in the reclamation districts, and the development of machinery capable of realizing the large-scale land-moving projects. The reclamation districts formed as a result of 1911 legislation were different from their predecessors. Early districts were often controlled by local landowners, who lacked the funds necessary to complete reclamation plans. The new districts controlled by modern corporations such as the West Sacramento Company (RD 900), the Armour Company (RD 1500), and the Natomas Company (RDs 1000 and 1001) had greater financial resources than private landowners, as well as the management skills to implement large plans, a tradition of reliance on skilled professionals, and the vision to see the connections between public policy and private goals and the linkages between their immediate objectives and other enterprises for large-scale development. The officers and directors of many of these new corporate landowners overlapped with each other and with other corporations with whom there existed or developed mutually supportive relationships. For example, Louis Sloss was a director of the West Sacramento Company, developers of RD 900, and the Natomas Company, developers of RD 1000 and RD 1001. He was also a director of the Northern Electric Railroad, the Alaska Packers Association, and Pacific Gas and Electric Company. With the interests that these companies represented, Sloss was in a position to see the relationships between the development and marketing of hydroelectric power, the reclamation and sale of land for agriculture, and the development of rail and water transportation which carried agricultural products to market. Sloss was typical of the leaders of these companies and his diverse involvements illustrate the way in which flood control and reclamation were taken over in the 1910s by a new type of enterprise.

The development of machinery such as the suction and clamshell dredge that was capable of implementing large-scale land-moving projects was also a factor that contributed to the realization of reclamation districts in the 1910s. These machines had been developed for gold mining. With names such as *Hercules* and *Vulcan*, the power they possessed to dredge tons of earth a day for gold mining was turned to that of transforming the natural landscape to meet goals of reclamation and the flood control plan. In the reclamation district, they were used to create a landscape for modern large-scale agriculture.

American Basin Before Reclamation

In 1861, the entire American Basin was established as District 1 and construction began on river levees in 1863. These levees had little impact on flooding, and the American Basin continued to fill with water nearly every year.

The effect of this flooding severely limited the uses of the land. Seasonal grazing and agriculture were possible on the high ground along the river and other areas not covered with tules or other marsh plants. The land was also used by fishing and hunting clubs, although these had little economic impact on the area.

There were transportation routes across and along the edges of the American Basin and along its adjacent rivers. Steamships and barges traveled on the Sacramento and American Rivers and were the principal means of access to the mines from the beginning of the gold rush in 1849 until the completion of the Central Pacific Railroad in 1869. As long as the river remained navigable, there was regular service between San Francisco, Sacramento and points north, including Colusa on the Sacramento River, and Marysville and Yuba City on the Feather River. River travel was impeded and sometimes stopped altogether by mining debris from the 1850s until after the turn of the century. Landings on the Sacramento River along the west side of the American Basin were used to load local farm products for shipment to market.

While no detailed study was made of land ownership in the American Basin before reclamation, early maps and other sources indicate that some of the land along the rivers was sold to private individuals by the state as soon as the land was surveyed (by extending the federal survey of township, range, and section into the swamplands) beginning in the mid-1850s. Most of the rest of it was sold in the period from 1868 to 1871. From this time, much of the land was held in large parcels of more than 640 acres apiece. These large landholders were speculators who expected the value of their land to increase substantially when the land was reclaimed, and they became active proponents of reclamation.

Transformation of the American Basin

New ideas for reclamation of the American Basin developed in the early 1900s, both in response to the general conditions discussed above which were favoring new reclamation efforts throughout the Sacramento Valley, and as the outgrowth of the particular situations of various business interests. Consideration of the matter was stimulated by a major flood in March of 1907. Several large landowners in the American Basin, with Clarke & Cox chief among them, were receptive to proposals to dispose of or improve the value and productivity of their land. R.G. Hanford, an experienced gold dredger, who had both a practical scheme and a persuasive rationale for reclamation, organized these landowners to petition Sacramento County to establish a reclamation district; the American Reclamation District was created on December 29, 1906.

Hanford commissioned two engineering and cost studies of the district; one by George L. Dillman of the San Francisco engineering firm of Hunt, Dillman, Meredith and Allen, and the other by J.G. White & Company of New York. In a report dated October 2, 1907, Dillman proposed a single district of 50,000 acres with a levee entirely around it, interior drainage canals, a pumping plant, a network of roads, and a system of irrigation with canals and pumps. J.G. White & Company said that such a proposal was feasible if money were available to make the improvements. Hanford then solicited the advice of the Sacramento real estate firm of Howard & Kimbrough, who stated that the money for improvements as well as ample profits could be generated by selling the land; that although there were not enough prospective buyers in California, the land could be successfully sold by advertising in the east as the Southern Pacific Railroad and other developers had done; and that the land could be sold in 10 years.

Role of the Natomas Company

Because the sale of land was projected to take so long, Clarke & Cox withdrew, and Hanford turned to the Natoma Development Company for financial support. Hanford may have already had some relationship with the Natoma Development Company, but it was not until Clarke & Cox withdrew that the Natoma Development Company actively entered the American Basin.

The principal creator of RD 1000 was, in various forms and under various names, the Natomas Company. The Natomas Company was formed in 1851 in Sacramento County to supply water for placer mining and irrigation. Over the years it had grown and evolved, changed its name and spun off subsidiaries. The company had been involved in placer mining for gold, and after 1898, in dredging for gold. The Natomas Company also provided water for irrigation and hydroelectric power (at Folsom), as well as providing water to the city of Folsom. The company was involved in agriculture, including orchards and one of the largest vineyards in California; in land development in the town of Folsom and in eastern Sacramento County; and in rock crushing at used-up dredge sites. With gold dredging appearing to be a profitable basis for future business, in 1906, the Natoma Development Company was formed for the primary purpose of dredging.

As an independent gold dredger, subject to public criticism for destroying good farmland by dredging, Hanford had promoted the idea that reclamation was a means of creating more farmland than would be lost to dredging. As a large dredging company, Natoma Development Company saw the political advantage in such a plan. In addition, Natoma saw the prospect of substantial profits, and was encouraged about the prospects for the American Basin by the expansion in 1906-1907 of the Southern Pacific Railroad shops

across the American River from the district; by the booming population and economy of Sacramento in the aftermath of the 1906 earthquake; by the presence of the Northern Electric Railway along the eastern border of the district, and the imminent construction of the Western Pacific Railroad in the same area; and by the increasing traffic on the Sacramento River created by three steamship lines. Altogether, the location, soil, climate, transportation, proximity of markets, and access to river water for irrigation appeared to make the American Basin suitable for a large reclamation effort such as had been proposed. By the fall of 1908, the Natoma Development Company had purchased options to buy 60,000 acres of swamp and overflow land in Sacramento and Sutter counties. These options were transferred from the Natoma Development Company when it merged with Natomas Consolidated of California on November 11, 1908.

Natomas Consolidated supported eleven large landowners (from whom Natomas Consolidated held options) in the American Basin in their petition to re-establish a reclamation district under the Green Act of 1868. RD 791 (note: referred to by Norwood Silsbee in his history of the company as the American River Reclamation District) was established on January 4, 1909, and included all the swamp and overflow land in Sacramento and Sutter Counties, from Levee District No. 6 in Sutter County to the American River along the east side of the Sacramento River.

For Natomas Consolidated, Hanford commissioned a set of five reports from Stephen E. Kieffer, of San Francisco, on the design of a reclamation plan for the American Basin. Kieffer's reports, prepared in collaboration with George Dillman, developed Dillman's earlier ideas. They were presented on January 1, 1909, with a follow-up report after another serious flood later that month. The major change in Kieffer's proposal was to expand the district north to the south side of the Bear River, to include Levee District 2 and Swampland District 818. To realize this idea, additional studies were initiated which would take a year to complete. During this period, opposition to expansion of the project emerged from Sutter County landowners. The existing levees along the Feather and Bear rivers had withstood the 1909 floods and these property owners saw no need for higher levees, or for the assessments that would be required to pay for them. The result was a modification of Kieffer's proposal that created two separate reclamation districts over the enlarged area, RD 1000 and RD 1001.

Opposition also came from the City of Sacramento, which found that the proposed levees would increase the danger of flooding in the city. This resulted in the omission of land from the district across the American River from Sacramento, so that the levees would be built back from the river and away from the city.

The new districts, RD 1000, and RD 1001 to its north, were created by the State Legislature on April 8, 1911. RD 1000 consisted of 55,031 acres, 44,112 of which were owned by Natomas Consolidated. In a compromise solution, 462 acres of the area across from Sacramento that were left out were included in a separate district established June 13, 1913, called RD 1400. In 1922, RD 1400 was consolidated with RD 1000. The levees and other features of the reclamation system were built around RD 1400 as if it were a part of RD 1000.

Thus, even before the Jackson report was issued in 1910, a sound plan was being developed for the reclamation of the American Basin under the direction of R.G. Hanford and the Natomas Company. This plan called for the creation of two reclamation districts, RD 1000 and RD 1001, separated by a canal. Both districts were established simultaneously with the establishment of the State Reclamation Board.

With the establishment of RD 1000 on April 8, 1911, three trustees were appointed by the County Board of Supervisors: Newton Cleaveland, Emery Oliver, and Frank H. Bennett. Preliminary plans prepared by Oliver, based on the Dillman, White, and Kieffer reports of 1907-1909, were submitted for approval to the boards of supervisors of the two counties and to the State Reclamation Board. The counties appointed assessors to allocate projected reclamation costs among landowners. Based on these projections, landowners of the district voted for a \$2,000,000 bond issue on September 4, 1911.

The districts would consist of levees, drainage canals, pumps, irrigation systems, and roads, all of which would be paid for by the sale of land. After an early idea to include a suburban residential development at the southern end of RD 1000 was discarded, the entire district was envisioned as consisting of family farms of about 10 to 40 acres in size.

Construction of the reclamation infrastructure was slower and more expensive than expected, and there were unplanned problems from floods. The federal government did not join the effort as quickly as had been hoped. Most importantly, the land did not sell, and it was both the money received for the land and the contributions from landowners in the form of taxes that was to pay for the reclamation work. When World War I began in Europe in 1914, the U.S. government turned its attention to that, and as industries geared up for war-related production, workers who might otherwise have been drawn to buy farms were instead drawn to work in factories for war-related production. In addition, there was a huge glut of available land that was all being marketed to the same segments of the population. Just as the land for RD 1000 became available, so did large areas in other reclamation districts throughout the Sacramento Valley.

The results of these problems were a reorganization of Natomas Consolidated as the Natomas Company of California on December 24, 1914, and a second bond issue of \$1,000,000 for reclamation, approved by the voters May 25, 1917. This was followed by a third bond issue of \$6,325,882 for maintenance and operations, approved July 31, 1922.

Despite these changes, and stepped-up efforts to market their land, little land was sold in the 1920s and the company was reorganized again on November 13, 1928, as the Natomas Company. In 1933, the Reconstruction Finance Corporation bailed out farmers in RD 1000, saving most from bankruptcy. In 1942, the company lowered its land prices with the intention of selling it as quickly as possible. Land sales increased rapidly so that only 3,000 acres remained to be sold by 1948 and all of it was sold by 1955. At that time, the Natomas Company's involvement in RD 1000 ended, and they turned over control of the district to the landowners (Dames and Moore 1996).

Natomas News

Vol. 1 NO. 2 April 1911
Sacramento Museum Collection Center
Natomas Company Collection

RD 1000

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NATOMAS NEWS

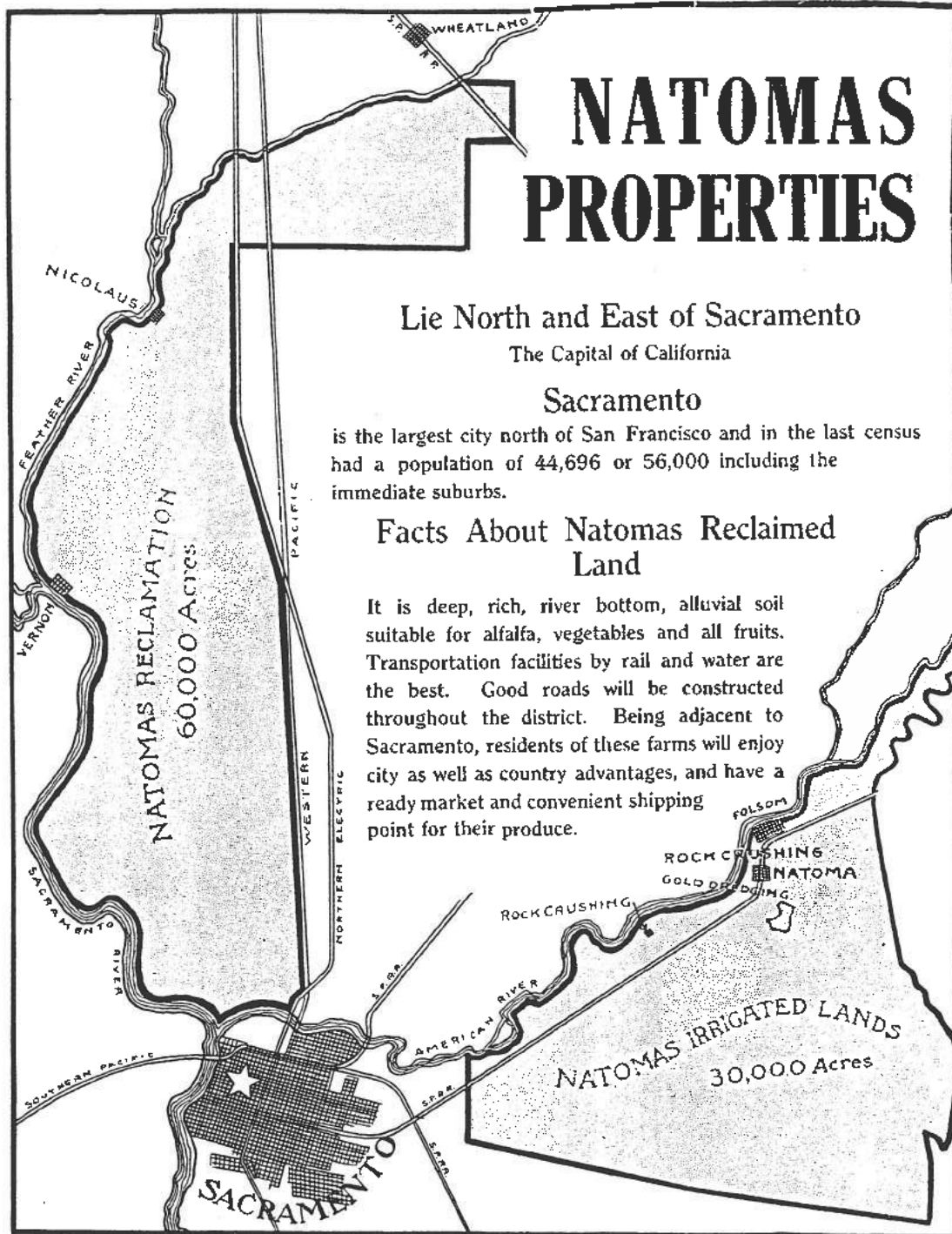
NATOMAS CONSOLIDATED OF CALIFORNIA

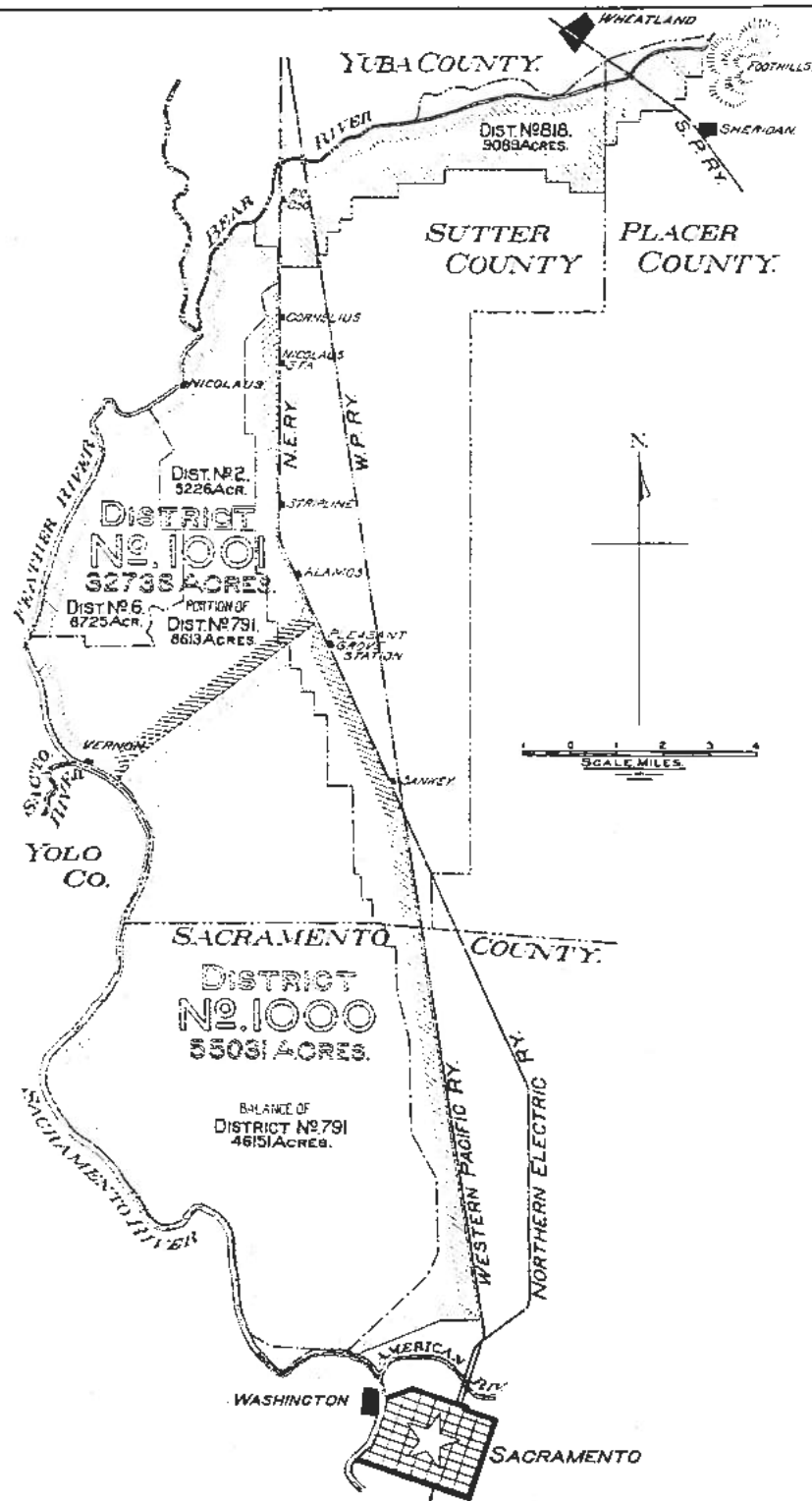
VOLUME 1

SACRAMENTO, CALIFORNIA, APRIL, 1911

NUMBER 2







FACTS ABOUT CALIFORNIA

California is the second State in the Union in area, and the twelfth in population.
The coast line of California is nearly 1,000 miles in length, and the State has an average width of 200 miles.
The total land area of California is 158,360 square

miles—a trifle less than one-twentieth of the area of the entire United States.

Of this 100,000,000 acres of land in the State, two-fifths, or 40,000,000 acres, are arable, the remainder being either desert or mountains too steep for cultivation.

CLIMATE

The Japan current gives the entire State the same general average temperature at points of the same altitude, and the same distance from the sea.

The California climate is temperate and equable. On the coast it is cool the year round, with a mean temperature of 55°. In the valleys where the warm summers provide an excellent growing and harvesting season there are greater variations of temperature. The thermometer has been known to drop as low as 20° (above), and not infrequently registers over 100° in the midsummer months. Because of the dryness of the heat this is less objectionable than 85° in the humid Eastern atmosphere. The mean temperature for the valleys during the past twenty-seven years is between 60 and 65°.

RAINFALL

There are two seasons—the wet and the dry. Rain falls during the period from November to April, and almost never during the summer. The average annual rainfall at Sacramento for the past thirty years is 20.20 inches. At Red Bluff, at the northern part of the Sacramento Valley, it was 25.7 inches for the same period. For the past twenty-seven years the United States Weather Bureau reports show an average annual rainfall of 21.24 inches for San Francisco and an average for Los Angeles of 16.03 inches.

POPULATION

The 1910 census reports show that California has a population of 2,377,549. This is an increase of 60% over the figures of 1900. The density of population in California is 15 persons to the square mile.

COMPARATIVE FIGURES

Denmark, with an area of 14,850 square miles, has a population of 2,450,000. Density of population, 165.

The British Isles, with an area of 127,377 square miles, or 77,683,084 acres, had in 1909 a population of 45,008,421. It is interesting to note that 45,976,865 acres out of the whole are under cultivation. Density of population, 371.

The Netherlands, with 12,500 square miles, has 5,100,000 inhabitants. Density of population, 408.

Belgium has succeeded in supporting a greater number of persons per acre than any of the above countries. On 11,400 square miles there is a population of 6,700,000. The density of population is 587.

Compare these figures with California's 15 to the square mile.

CALIFORNIA FARMS

There are 100,000 farms in California waiting for settlers. The two great river valleys which stretch north and south for a distance of five hundred miles and are fifty miles wide, are rich and productive. All they need is a greater farming population, and this they will very shortly acquire.

COMPARE THE STATES SHOWN ON THIS MAP WITH CALIFORNIA.

Ten Statessquare miles 149,945; population 25,523,535
Californiasquare miles 158,360; population 2,377,549

THE SACRAMENTO VALLEY

The fertile Sacramento Valley, comprising eleven counties, has now a population of 204,996. Its area is 14,873 square miles—practically the size of Denmark and larger than Holland and Belgium. Yet each of those countries supports millions on land not so rich as this river valley. There are but 17,000 farms in the Sacramento Valley, which is at the rate of a little less than one square mile to each farm. One square mile in this valley should be supporting no less than forty small farms.

The valuation of the products raised in the valley for the year 1908, including cattle, lumber and crushed rock as well as fruit and vegetables, was \$109,116,076, according to figures given out by the Sacramento Valley Development Board.

There is no other spot in the world where so great a variety of crops attain to such a high degree of perfection as in the Sacramento Valley.

III. ENGINEERING INFORMATION

The Natomas Company was the principal builder of the overall reclamation plan infrastructure of RD 1000. Although the component infrastructures for the road system and drainage system were linked in concept to the overall reclamation plan, they were designed and built separately. Each system is described below. Specific engineering information on the pumping stations is included in Section I "Description".

The following text describing the features is quoted from the 1996 Dames & Moore *Historic Properties Treatment Plan for Reclamation District 1000 Rural Historic Landscape District*, with minor editorial changes.

Drainage System

Although there is no specific documentation, it seems likely that all of the infrastructures of RD 1000 were designed by engineers within or under contract to the Natomas Company, with the designs based on the reports of Dillman, White, and Kieffer of 1907 to 1909. In 1910, an engineering department was established by Natomas Consolidated. However, beginning August 9, 1911, principal design work on the drainage system was done by the Hammon Engineering Company, which was owned by Wendell P. Hammon, a major stockholder in the Natoma Development Company, and whose chief engineer was S.L.G. Knox. When Knox became General Manager of Natomas Consolidated in 1912, he was succeeded at Hammon Engineering by Emery Oliver, who subsequently also joined the Natomas Company. The contract with Hammon Engineering ended in 1912, and subsequent design work was performed by the company's in-house engineering department. In his history of the Natomas Company, Norwood Silsbee later attributed primary leadership in the design to Oliver.

Once RD 1000 was established, design of the drainage system was overseen by the District Engineer. The first District Engineers were Norton Ware and R.G. Clifford, both former Western Pacific Railroad engineers. The District Engineer submitted the final plans and estimated costs to Natomas Consolidated for approval on February 1, 1912. A contract was let by the RD 1000 on May 27, 1912 to Natomas Consolidated for construction of the drainage system. Natomas Consolidated built the entire system, except for portions of the Cross Canal and East Levees which were subcontracted to the firm of Moreing & Fitzpatrick.

The historic drainage system built by the Natomas Company to protect the American Basin from flooding and facilitate the reclamation of the land consisted of a series of levees that encircled the district. There were three major levees: the East Levee on the east and south protected the district from the American River and its tributaries that drained the hills to the east; the River Levee on the west protected the district from the Sacramento River; and the Cross Canal Levee protected the district from runoff from RD 1001 to the north. Three exterior drainage canals intercepted these flood waters and discharged them to the Sacramento River: the Natomas East Main Drainage Canal on the east and south, the Pleasant Grove Canal on the east, and the Cross Canal on the north. Four branches of the interior drainage canal drained the land within the district and carried water southward to the main pumping plant (Plant No. 1). These were the North, East, and West Drainage canals, and the Natomas Main Drainage Canal. There were originally two pumping plants, Plants No. 1 and 2. Plant No. 1 (1914) was located at the southern end of the Natomas Main Drainage Canal and was the primary pumping plant. Pumping Plant No. 2 (1916) was built to serve both the drainage and irrigation systems. In 1939, Pumping Plant No. 3 was built on the River Levee with a branch canal that extended to the West Drainage Canal. This plant increased the drainage capacity. These levees, canals, and three pumping plants constituted the historic drainage system and remain its key components today.

Work began immediately upon execution of the construction contract; in May 1912 on the River Levee; and in August 1912 on the East Levee. When the levees were nearly finished, a flood in January 1914 damaged the new structures, which consequently were not completed until December 1914. The main drainage canals were begun in March 1913 and finished in January 1917. Pumping Plant No. 1 went into operation in December 1914, and Pumping Plant No. 2 went into operation in January 1916.

Construction of these features required different approaches to design and construction technology. In particular, because the Sacramento River Levee was required to be 800 feet from its counterpart on the west side of the river (under the Flood Control Plan of 1911), the ordinary means of building the levee with dredged material from the river, using a clamshell dredge, would not work. Instead, a suction dredge was used to bring sand to a trough between two earth levees. Ordinary clamshell dredges were used to build the Cross Canal Levee and the portion of the East Levee along the American River. The East Levee was built by horse-drawn excavators. The Cross Canal Levee and East Levee were built of material from the excavations of the cross canal and the Natomas East Main Drainage Canal.

Two factors had to be considered when designing the canals, and more importantly, the pumping plants to drain the area enclosed by the levees of RD 1000. The first factor

was recorded rainfall, which was easily determined from various records. Because the water table in the area was high, it was assumed that the soil would absorb none of this moisture. The second factor that had to be considered was seepage from the Sacramento River during periods of high water, a factor for which no data were available. An assumption was made that seepage would equal rainfall, and a figure of $\frac{3}{8}$ inch of runoff in 24 hours was used to calculate the pumping requirements needed to drain the 52,000-acre area. The combined capacities of Pumping Plants No. 1 and 2 were designed to handle this load. At first this figure seemed satisfactory, but as will be noted below, experience proved pumping capacity to be inadequate and Pumping Plant No. 3 (ca. 1939) was constructed. It was designed solely for storm drainage and only operated at peak flood periods.

Road System

The RD 1000 road system provided for access within the district and for connections to the region. It consisted of two perimeter roads that ran on top of the levees--the Garden Highway and East Levee/Natomas Road. The Garden Highway provided access from Sacramento through the district to points north. The East Levee/Natomas Road provided access along the district's eastern edge. To provide access to drainage canals for construction and maintenance as well as to parcels within the nine subdivisions, a network of 60 miles of dirt roads was graded by the Natomas Company. This lateral road network generally followed the lines of the land survey and with the drainage canals formed a series of large grids that divided the district into large rectangular fields.

Roads were considered one of the key components of Natomas's reclamation plans for RD 1000. As has been noted, the district's proximity to Sacramento was viewed as a selling point for its lands. Sacramento was considered an important market and the center of a much greater distribution network. *Natomas News* stated:

"Sacramento has a distributive territory extending eastward almost over the entire state of Nevada. To the north Sacramento's merchants send their ware into Oregon, and to the south far into the San Joaquin Valley Under the reclamation of this huge tract (RDs 1000 and 1001) thousands of families will be virtually added to the suburbs of Sacramento. A few minutes' ride will take any farmer on Natomas lands to the City of Sacramento."

The road system that Natomas was planning would take advantage of this proximity by providing farmers an easy way to take their products to the Sacramento market.

Natomas News described the system:

"One of the most attractive features . . . (of the Natomas project is) the system of good roads that will afford the settler upon these lands easy access to the market . . . On the reclaimed lands there will not only be the highway on the summit of the continuous levee that will extend forty-eight miles north of Sacramento . . . but lateral systems will (be) connected with this main highway . . . The reclaimed lands will not only have the advantage of railroad, water, and electric trolley transportation, but will be reachable in every part through good roads built of Natomas crushed rock. These manifold and direct means of transportation will place this vast area virtually in the suburbs of Sacramento City."

The premier road within the district was the scenic highway that ran along the crown of the River Levee. The Garden Highway, originally called Natomas Boulevard, was intended to connect the district with points north; however, it was more than just an efficient means of transportation. The picturesque qualities of the Sacramento River and land adjacent to the river were of great interest to the Natomas developers. The virtues of farming and living on the land were often touted in *Natomas News*, and the beauty of the landscape was extolled over and over again. The Garden Highway was to be a means to present this beauty, the means of traveling through the landscape and viewing it. *Natomas News* provided a description of this element of the development:

"When levees being built by Natomas Company of California and the land owners of the two reclamation districts, district 1000 and district 1001, are completed one will be able to ride north from Sacramento for 48 miles along their summit. The tops of the completed levees will then form a continuous levee which will be surfaced off and made an oil rock macadam road, Natomas crushed rock being used. The road will follow the Sacramento river from Sacramento City to Verona . . . One will easily be able to make the drive in an hour or a little more, through one of the most picturesque of California's beauty spots."

The Garden Highway was to afford the motorist ". . . a wonderful opportunity to view the Natomas lands and these (Sacramento and Feather) scenic rivers." Construction of the Garden Highway began in 1917. The Natomas Company built 10 miles of road. It was originally 16 feet wide with a 4-foot gravel shoulder on each side. It was paved with concrete, although it was planned that the road would be covered with black top as the concrete became worn. The highway was completed between 1923 and 1925 in the second phase of building that the Natomas Company undertook, after World War I (Dames and Moore 1996).

Composite of USGS 1:31,680 Series Quadrangles:

Vernon 1910

Arcade 1911

Pleasant Grove 1910

Lovdal 1916

Grays Bend 1916

Brighton 1911

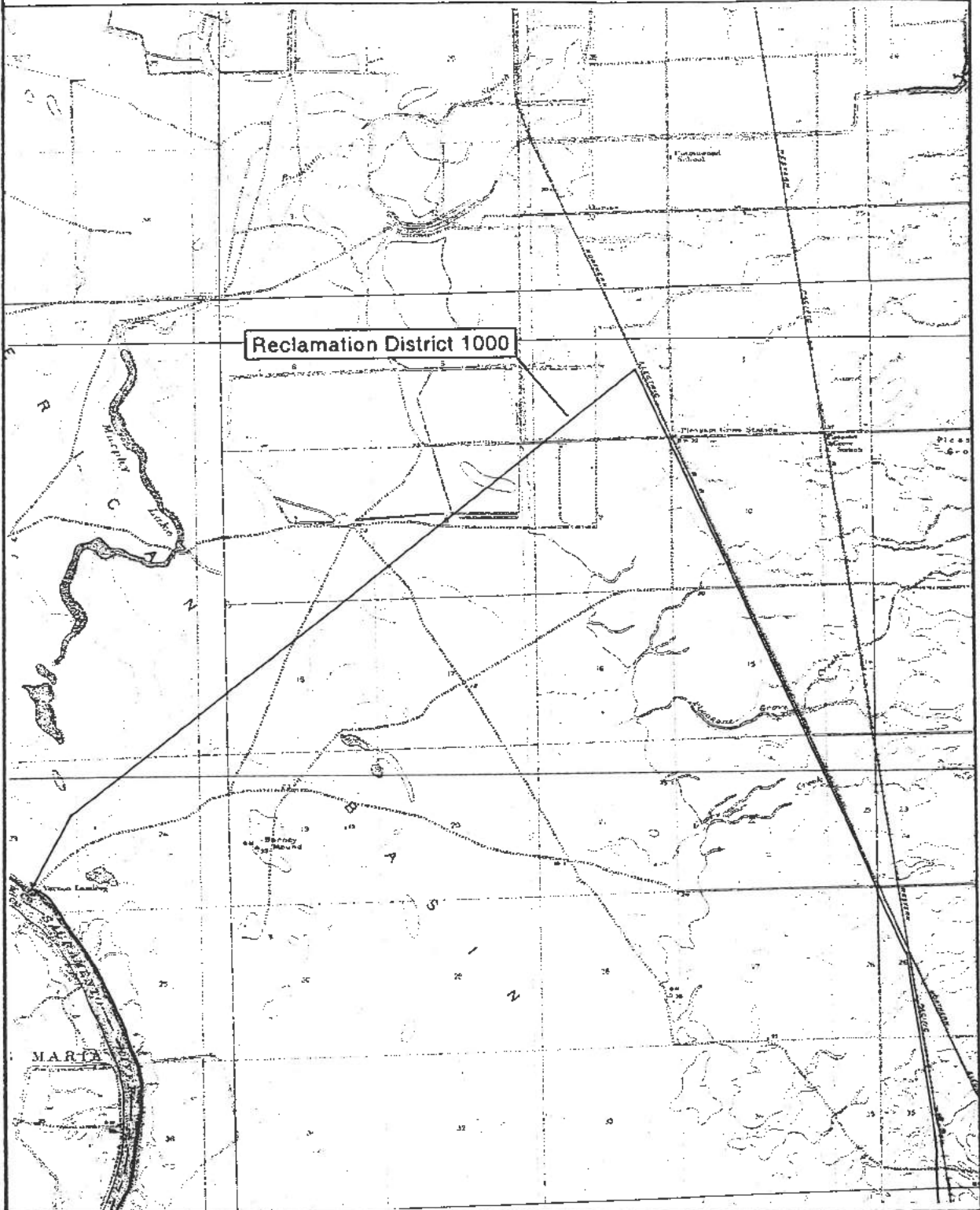
Elkhorn Weir 1915

RD 1000

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Scale: 1 inch = 1 mile



Composite of USGS 1:31,680 Series Quadrangles:

Vernon 1910

Arcade 1911

Pleasant Grove 1910

Lovdal 1916

Grays Bend 1916

Brighton 1911

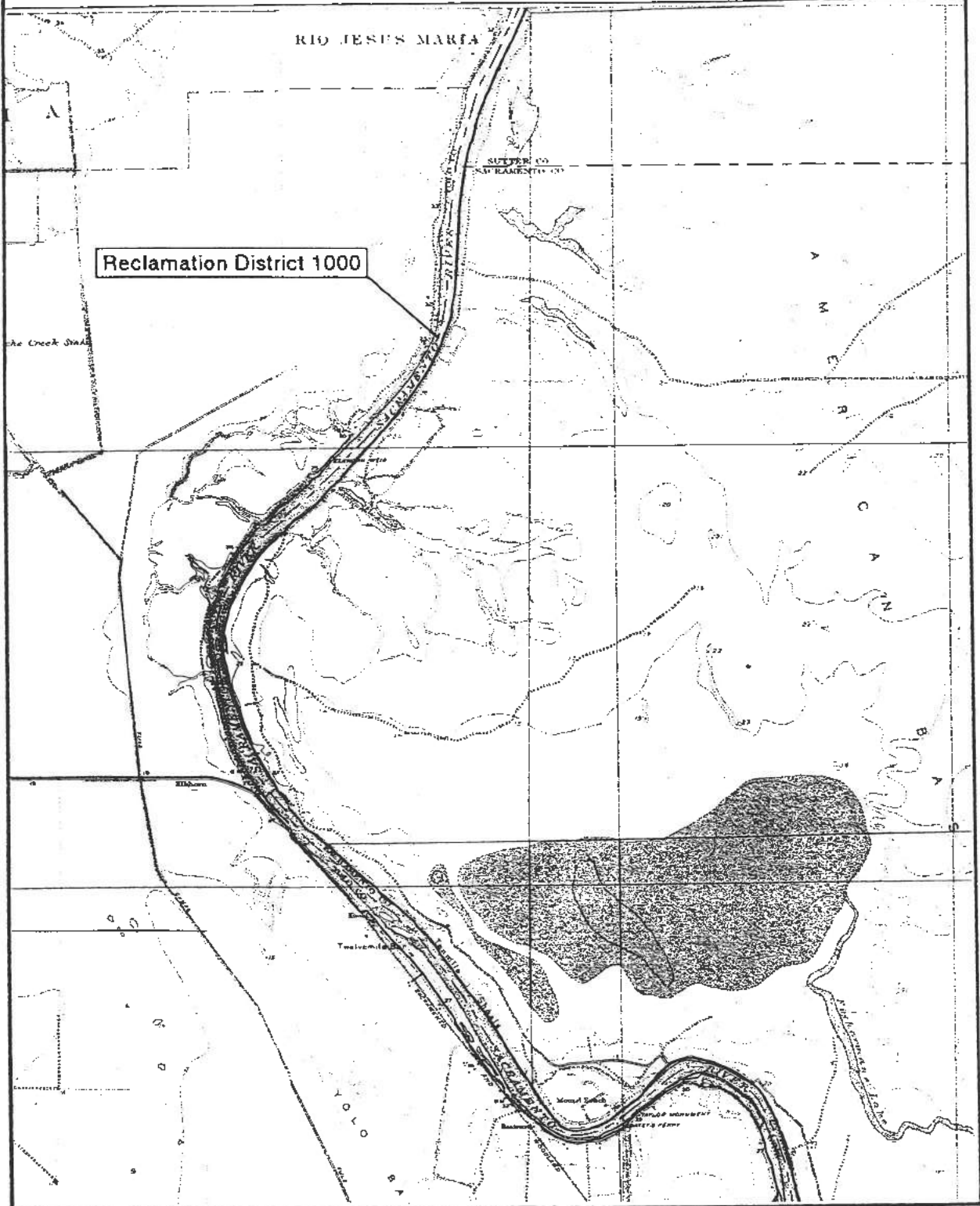
Elkhorn Weir 1915

RD 1000

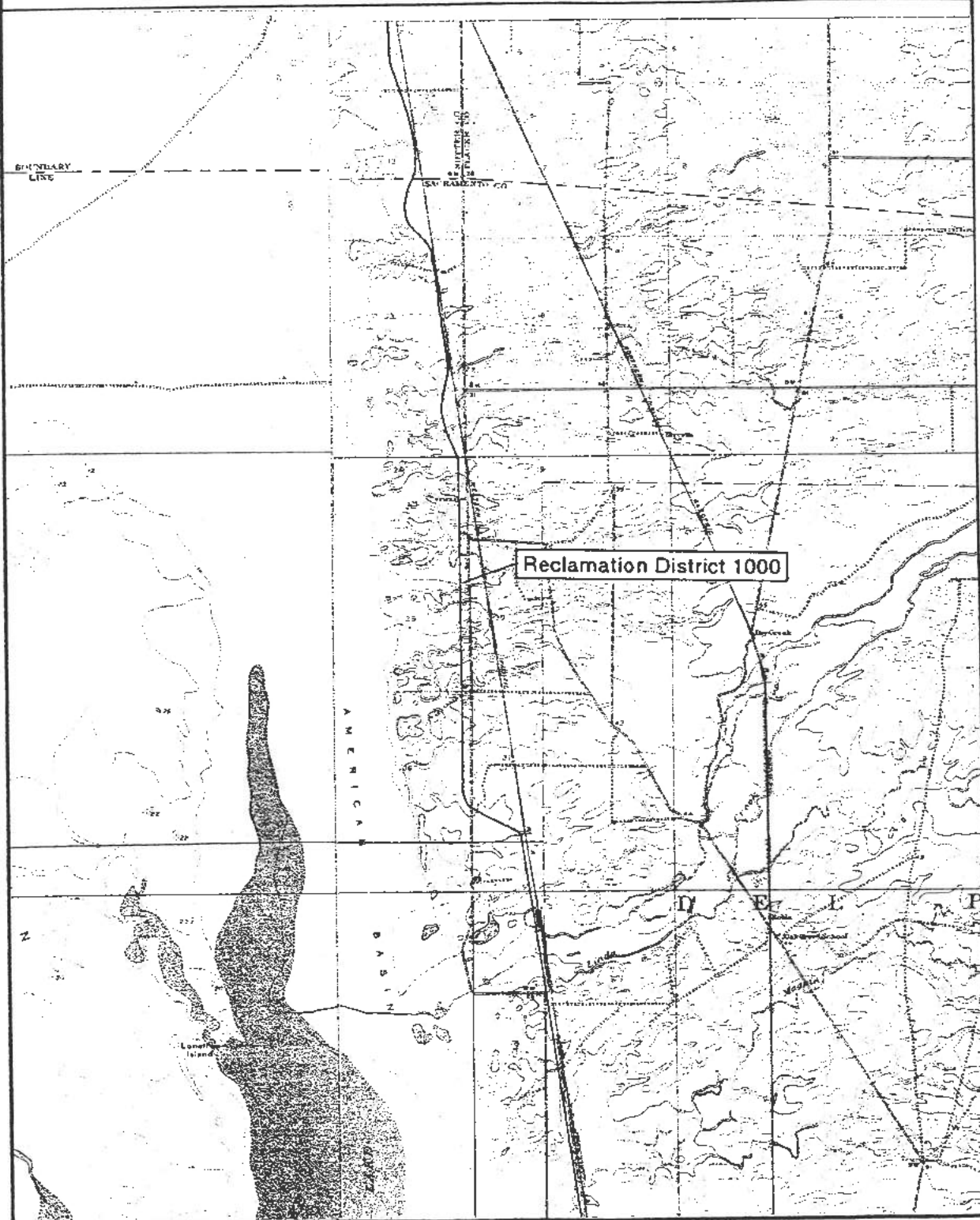
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Scale: 1 inch = 1 mile



Scale: 1 inch = 1 mile



Composite of USGS 1:31,680 Series Quadrangles:

Vernon 1910

Arcade 1911

Pleasant Grove 1910

Lovdal 1916

Grays Bend 1916

Brighton 1911

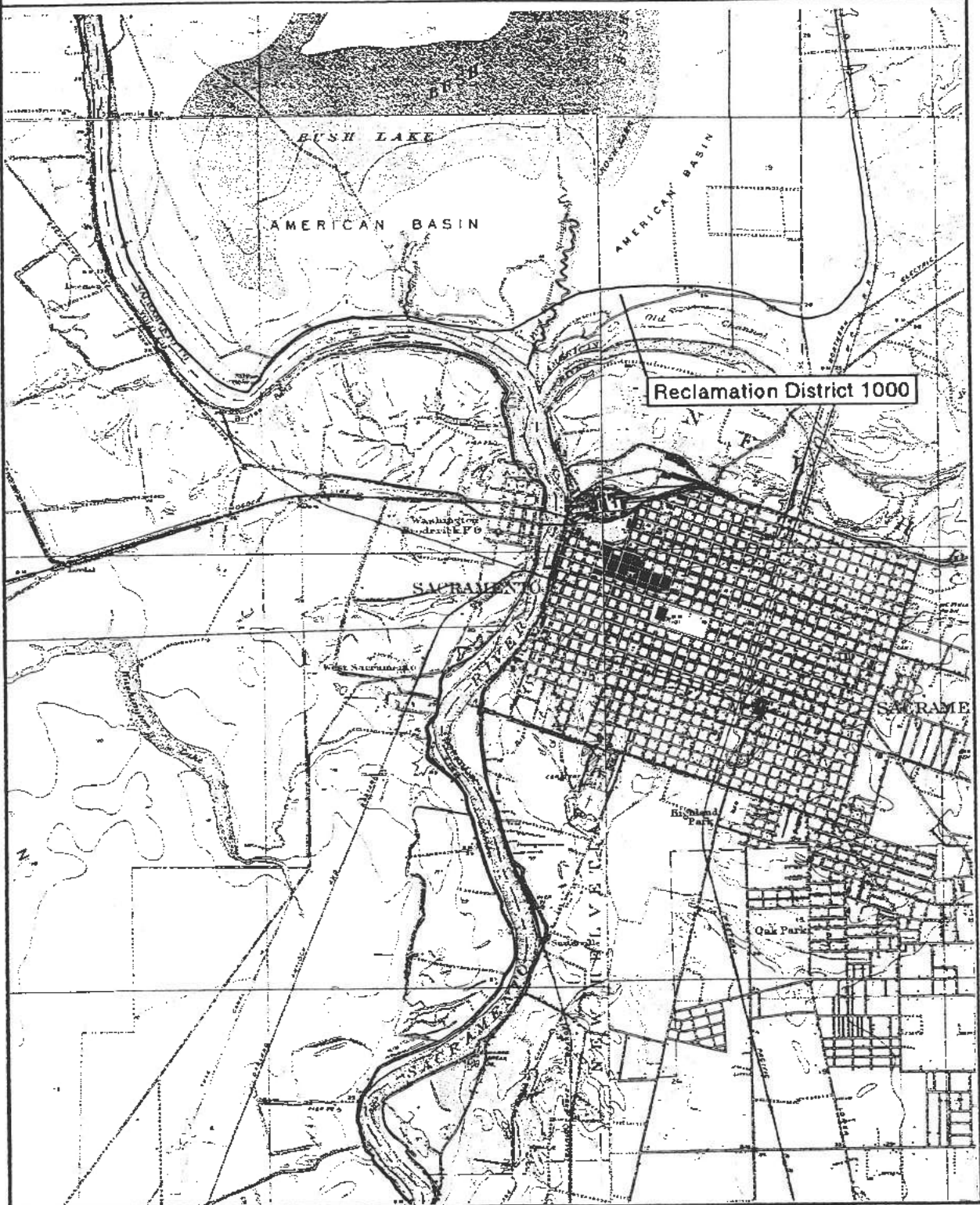
Elkhorn Weir 1915

RD 1000

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Scale: 1 inch = 1 mile



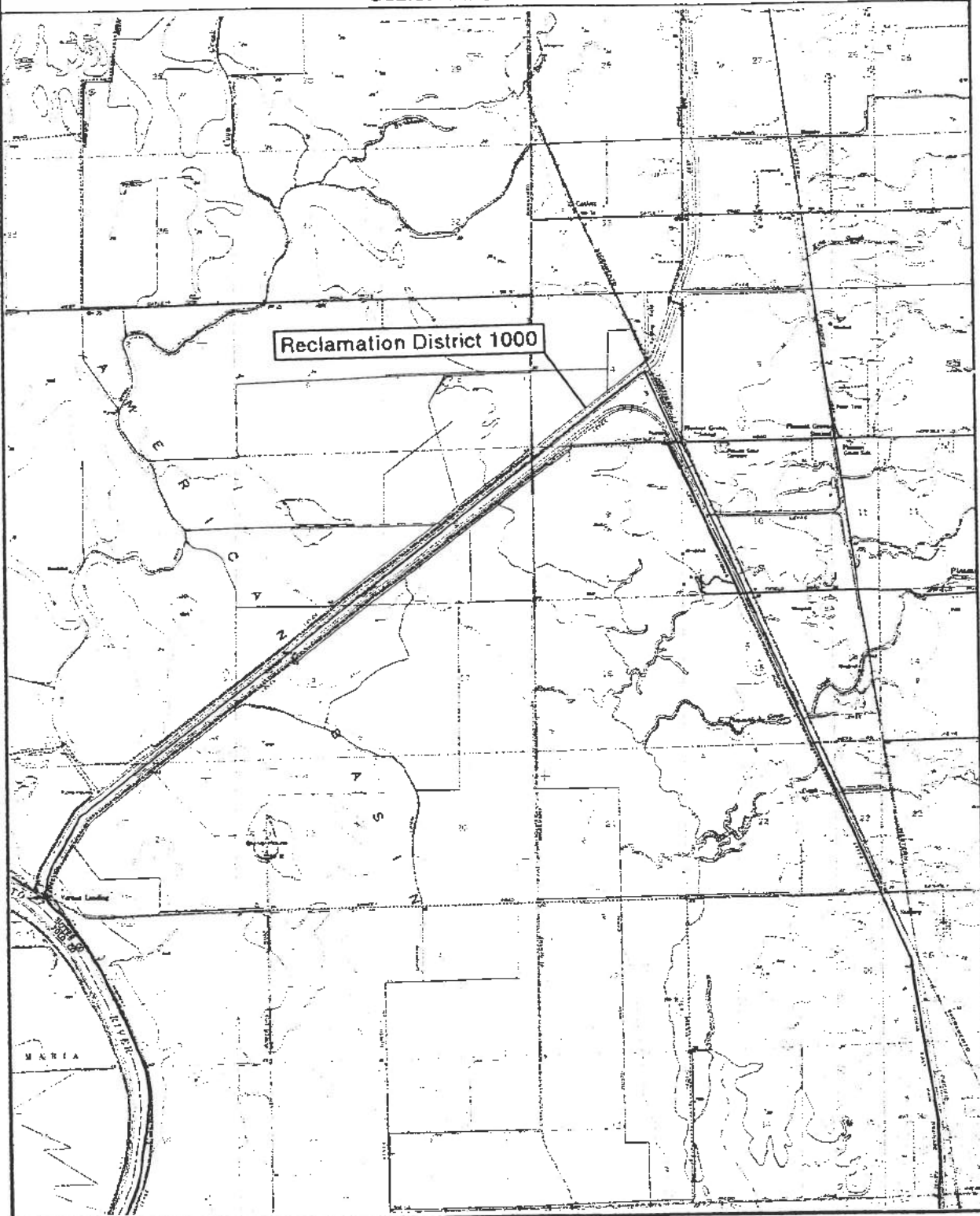
Composite of USGS 1:24,000 Series Quadrangles:
Verona 1952 Rio Linda 1951
Pleasant Grove 1953 Sacramento West 1949
Grays Bend 1953 Sacramento East 1954
Taylor Monument 1951

RD 1000

HAER NO. CA-187

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Scale: 1 inch = 1 mile



Composite of USGS 1:24,000 Series Quadrangles:

Verona 1952

Rio Linda 1951

Pleasant Grove 1953

Sacramento West 1949

Grays Bend 1953

Sacramento East 1954

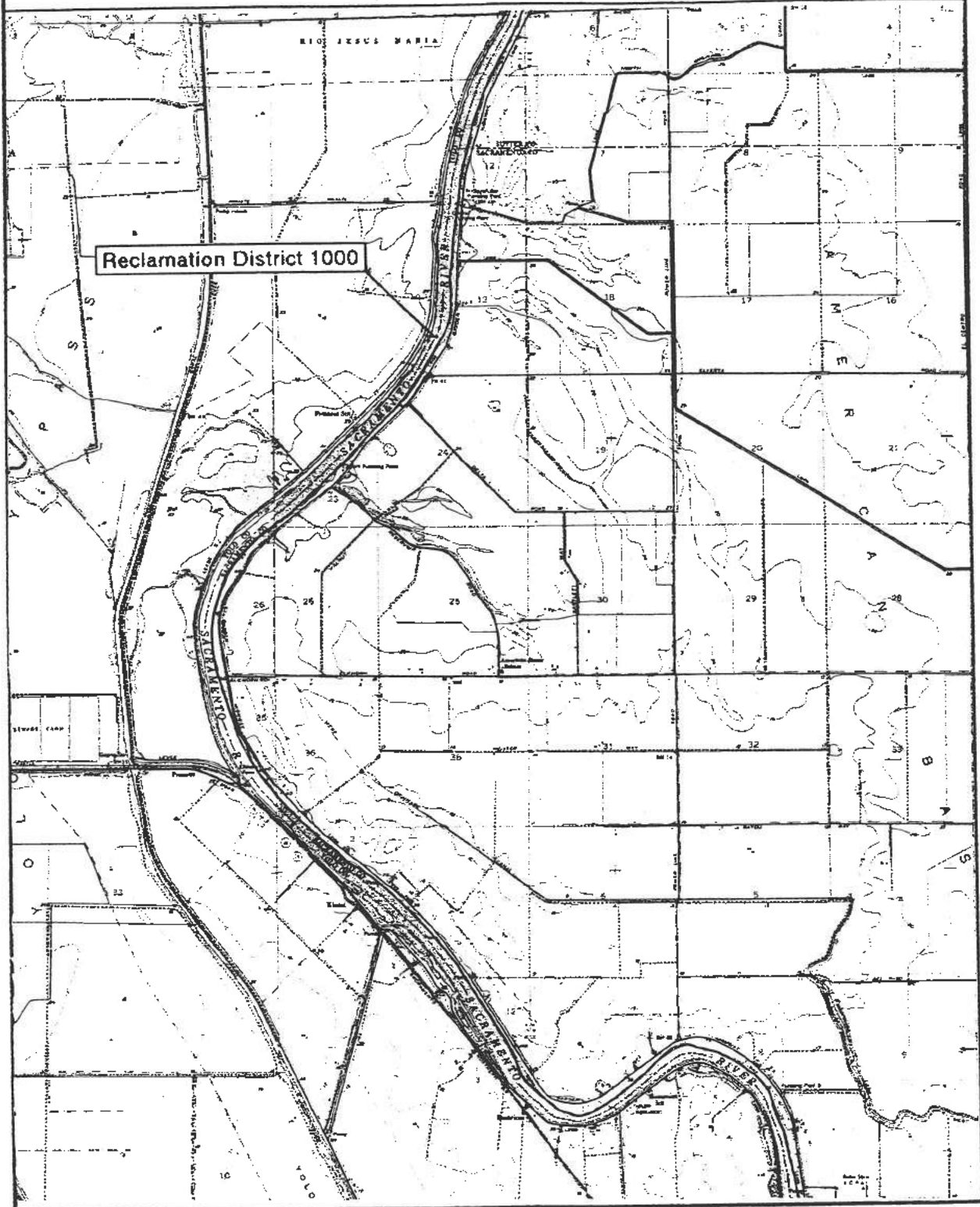
Taylor Monument 1951

RD 1000

HAER NO. CA-187

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Scale: 1 inch = 1 mile



Composite of USGS 1:24,000 Series Quadrangles:

Verona 1952

Rio Linda 1951

Pleasant Grove 1953

Sacramento West 1949

Grays Bend 1953

Sacramento East 1954

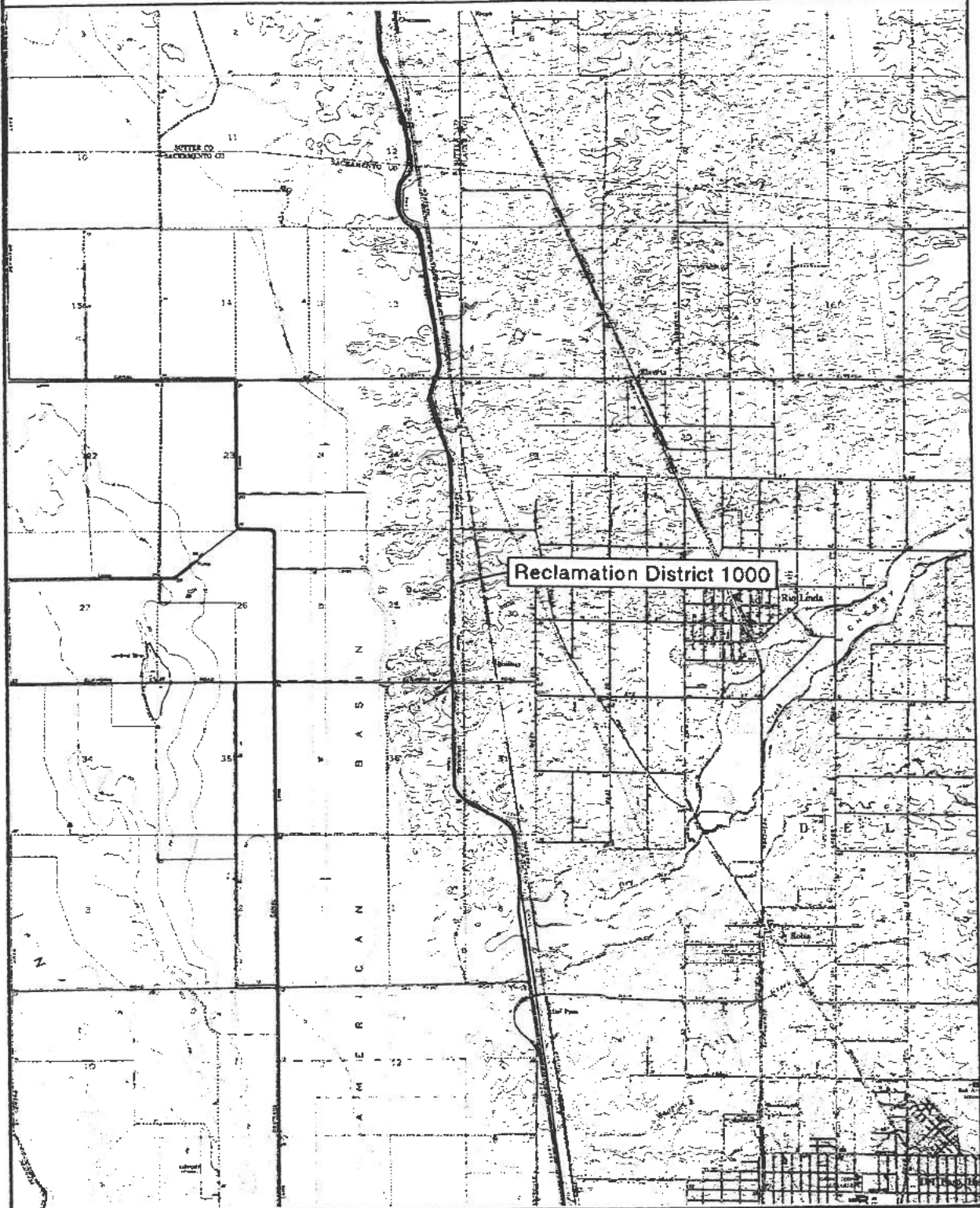
Taylor Monument 1951

RD 1000

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Scale: 1 inch = 1 mile



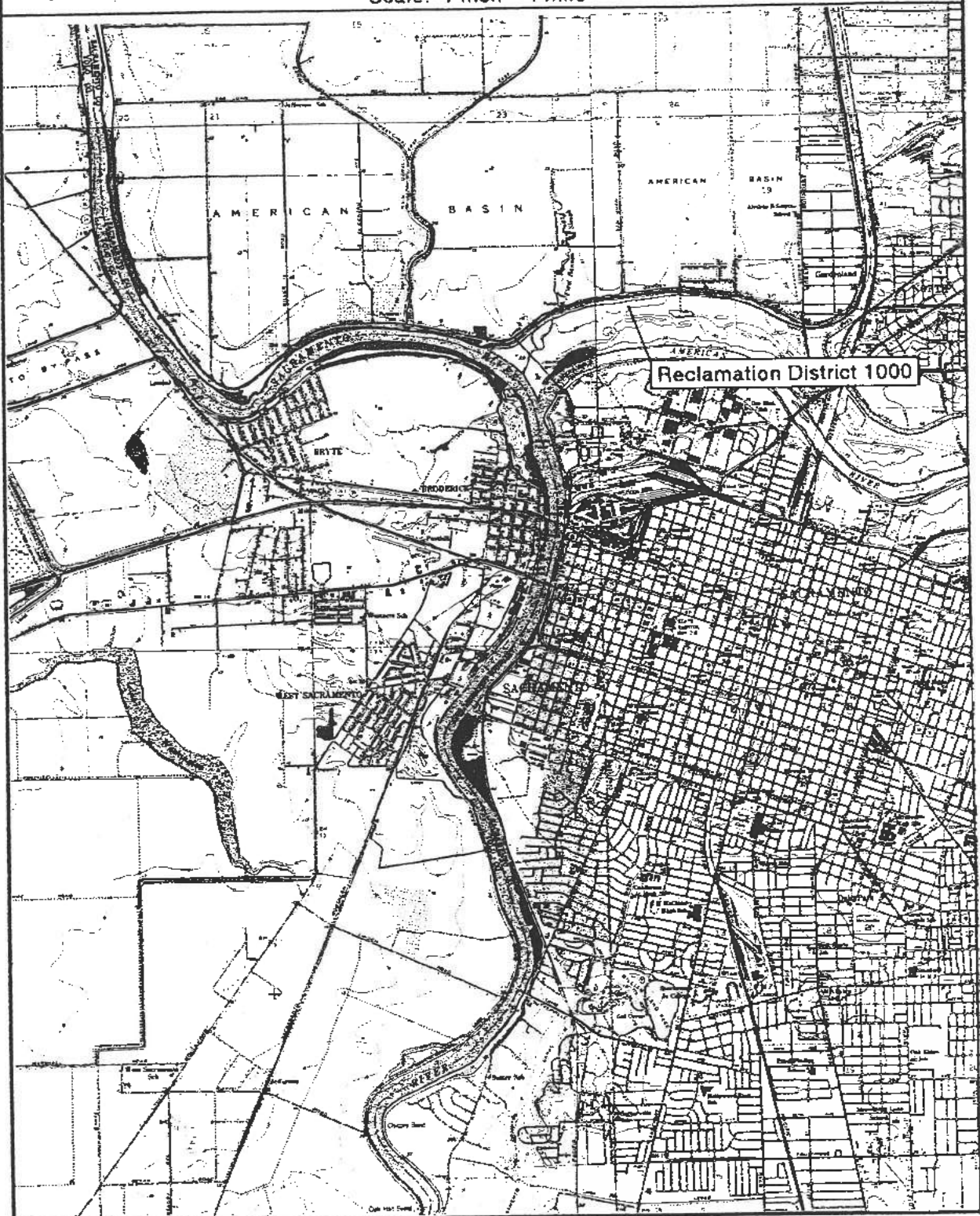
Composite of USGS 1:24,000 Series Quadrangles:
Verona 1952 Rio Linda 1951
Pleasant Grove 1953 Sacramento West 1949
Grays Bend 1953 Sacramento East 1954
Taylor Monument 1951

RD 1000

HAER NO. CA-187

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Scale: 1 inch = 1 mile



Composite of USGS 1:24,000 Series Quadrangles:

Verona 1967

Rio Linda 1967

Pleasant Grove 1967

Sacramento West 1967

Grays Bend 1968

Sacramento East 1967

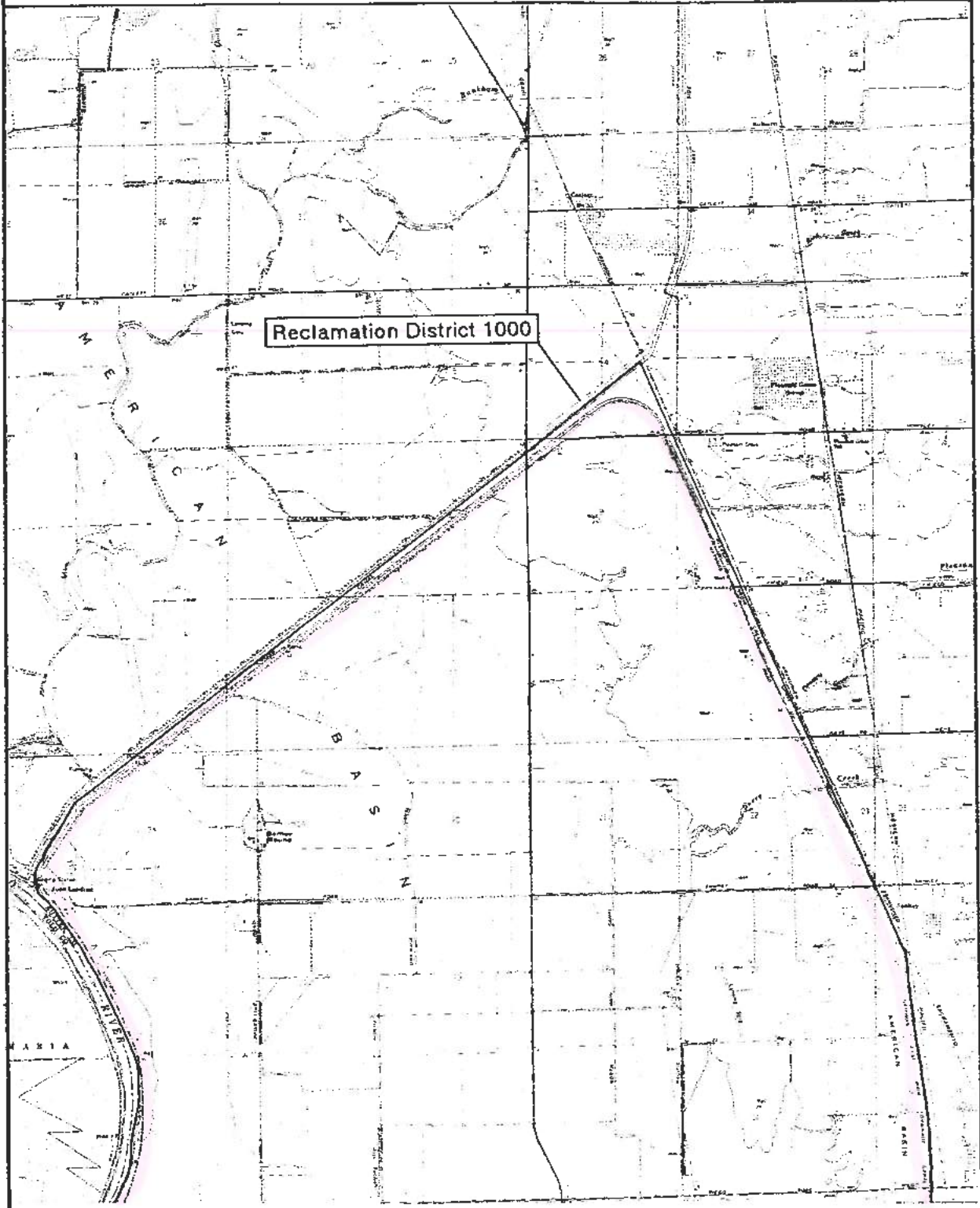
Taylor Monument 1967

RD 1000

HAER NO. CA-187

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Scale: 1 inch = 1 mile



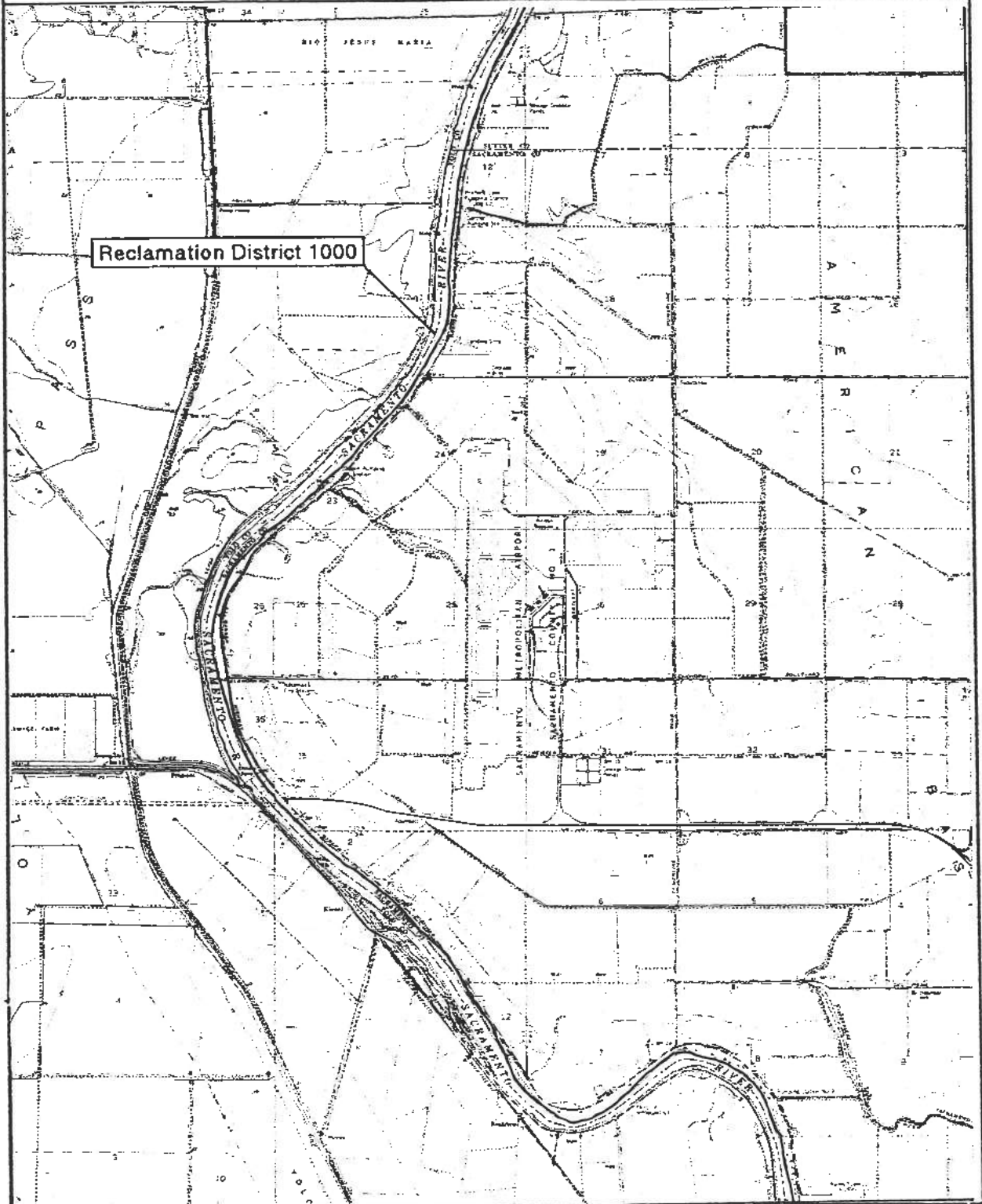
Composite of USGS 1:24,000 Series Quadrangles:
Verona 1967 Rio Linda 1967
Pleasant Grove 1967 Sacramento West 1967
Grays Bend 1968 Sacramento East 1967
Taylor Monument 1967

RD 1000

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Scale: 1 inch = 1 mile



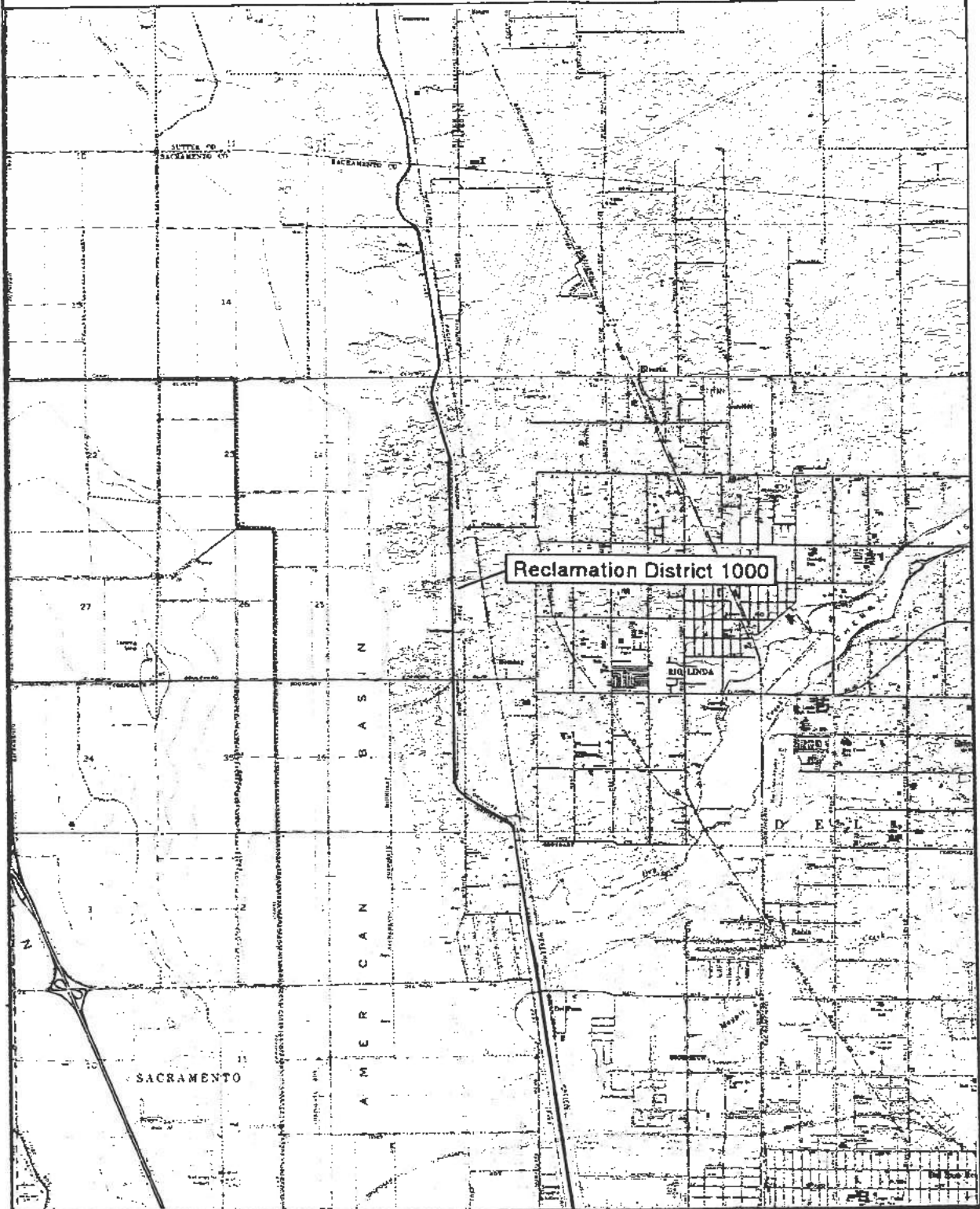
Composite of USGS 1:24,000 Series Quadrangles:
Verona 1967 Rio Linda 1967
Pleasant Grove 1967 Sacramento West 1967
Grays Bend 1968 Sacramento East 1967
Taylor Monument 1967

RD 1000

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Scale: 1 inch = 1 mile



Composite of USGS 1:24,000 Series Quadrangles:

Verona 1967

Rio Linda 1967

Pleasant Grove 1967

Sacramento West 1967

Grays Bend 1968

Sacramento East 1967

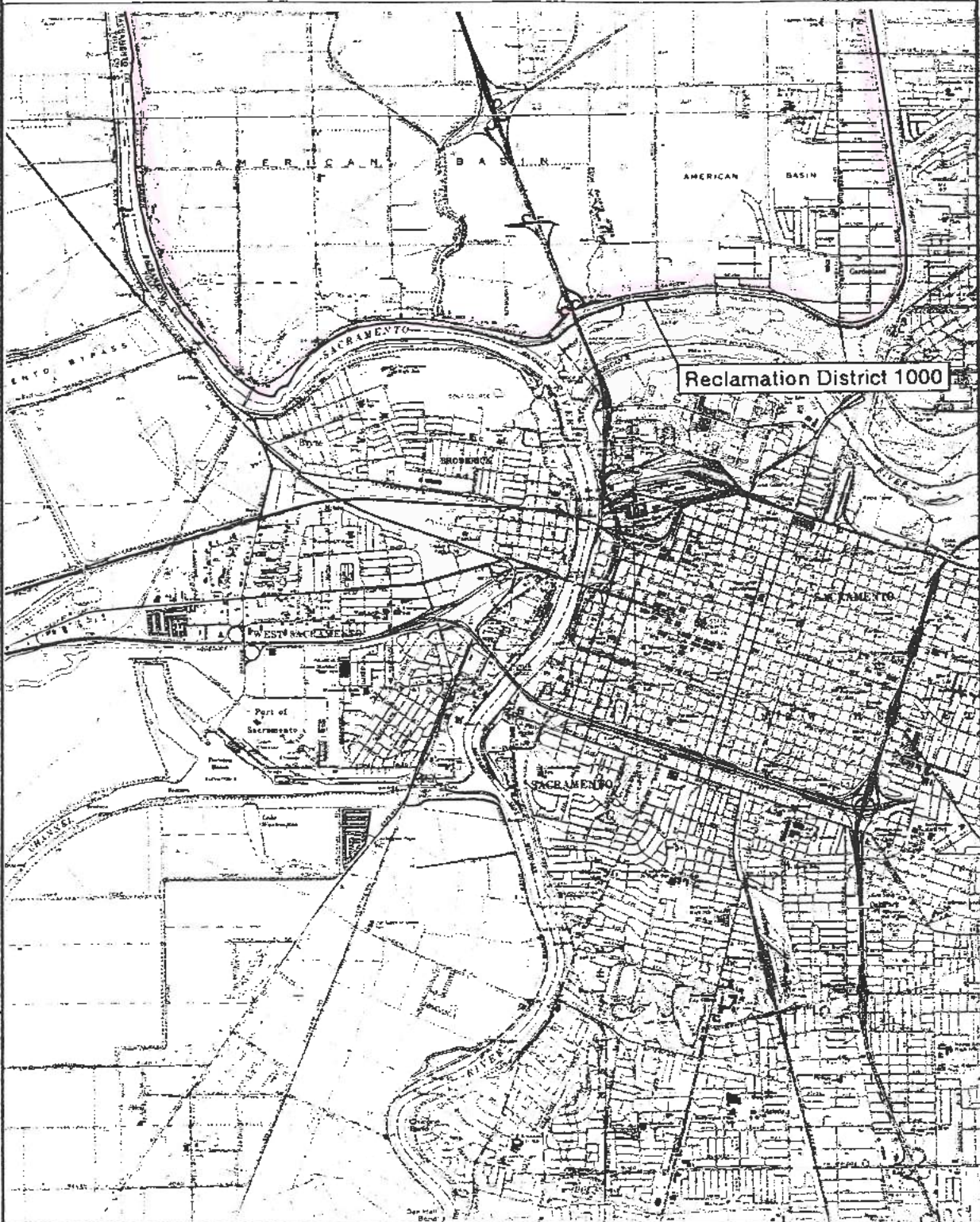
Taylor Monument 1967

RD 1000

HAER NO. CA-187

Page 58

Scale: 1 inch = 1 mile



IV. SOURCES

- Bradley, Denise and Michael Corbett. *Rural Historic Landscape Report for Reclamation District 1000 for the Cultural Resources Inventory and Evaluations for the American River Watershed Investigation, Sacramento and Sutter Counties, California*. Manuscript on file: U.S. Army Engineer District, Sacramento, Corps of Engineers, 1996.
- Dames and Moore. *Historic Property Treatment Plan For Reclamation District 1000 Rural Historic Landscape District*. Manuscript on file: U.S. Army Engineer District, Sacramento, Corps of Engineers, 1995.
- _____. *Final Research Design, Cultural Resources Inventory and Evaluation for the American River Watershed Investigation, El Dorado, Placer, Sacramento, and Sutter Counties, California*. Manuscript on file: U.S. Army Engineer District, Sacramento, Corps of Engineers, 1994.
- EIP Associates. *Initial Study and Proposed Negative Declaration, SAFCA Local Project Revisions Natomas Area Flood Control Improvement Project*. Manuscript on file: Sacramento Area Flood Control Agency, 1994.
- Natomas News* 1, no.1 (March 1911) to 3, no. 5 (July 1913).
- Silsbee, Norwood (compiler). *Natomas Company and Its Predecessors, 1851-1955*, 29 vols. Manuscript on file: California Room, California State Library, Sacramento.
- U.S. Army Corps of Engineers, Sacramento District and the Reclamation Board, State of California [Corps]. *American River Watershed Investigation, California: Feasibility Report. Part I, Main Report; Part II Environmental Impact Statement/ Environmental Impact Report*. Manuscript on file: U.S. Army Engineer District, Sacramento, Corps of Engineers, 1991a.
- _____. *Programmatic Agreement Among the Corps of Engineers, Bureau of Reclamation, California State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Implementation of the American River Watershed Project*. Manuscript on file: U.S. Army Engineer District, Sacramento, Corps of Engineers, 1991b.

V. PROJECT INFORMATION

General Background

Based on the results of a comprehensive *Feasibility Report/Environmental Impact Statement* conducted for the American River Watershed project area, the Sacramento District, U.S. Army Corps of Engineers (Corps) has determined that a number of measures are necessary to provide critically needed flood protection for urban areas along and adjacent to the lower American River in the vicinity of Sacramento, California. This feasibility study was conducted in response to record floodflows and flood damage in the American River basin caused during major storms across the region that occurred during February, 1986. Although numerous flood control measures were considered and 27 different protection alternatives were developed, a design that provides a 200-year level of flood protection is being recommended by the Corps and serves as the Selected Plan (Corps 1991).

Briefly, the major features of the 200-year protection alternative include:

- Construction of a flood detention facility with a 545,000-acre-foot capacity on the North Fork American River near Auburn to augment the existing flood storage behind Folsom Dam, located on the American River. This project would require 6,032 acres of land in the detention dam area and the relocation of State Highway 49 and Ponderosa Way.
- Acquisition of 5,385 acres of land along the South Fork American River for wildlife and botanical mitigation.
- Construction of levee, channel, and related flood control improvements at various locations in the Natomas area and along the lower extent of Dry Creek.
- Construction of 9.5 miles of pedestrian/bicycle trails and 7.5 miles of unpaved equestrian trails along portions of the Natomas East Main Drainage Canal (NEMDC) and lower Dry Creek and Arcade Creek.
- Maintenance of existing flood control storage space in Folsom Reservoir.

Detailed descriptions for each of the features are found in the *Feasibility Report/Environmental Impact Statement* for the project (Corps 1991). As initially

envisioned by the Corps, the American River Watershed project would encompass three distinct localities: (1) Natomas; (2) Upper American River, inclusive of the North, Middle, and South forks; and (3) Lower American River. Presently, however, the project is focused only within the Natomas Locality due to the failure of the U.S. Congress to authorize new flood storage along the American River as part of the 1992 Water Resources Development Act.

The Natomas locality is situated immediately north of the City of Sacramento and encompasses some 55,000 acres of reclaimed land in the American Basin. This locality is bordered roughly by the Sacramento River on the west, the American River on the south, the Natomas Cross Canal on the north, and the Natomas East Main Drainage and Pleasant Grove Creek Canals on the east.

Because of the immediate need for action to reduce flood risks in the Natomas Locality, and in light of the uncertainty of future Federal action to control flows in the American River, Sacramento Area Flood Control Agency (SAFCA) proposed to proceed with a stand alone project designed to provide as much flood protection as possible to the area without upstream improvements. This Historic Property Treatment Plan (HPTP) has been developed to assist the Corps with their Federal historic preservation responsibilities for the Natomas locality components of the Selected Plan [SAFCA local project] (Dames and Moore 1996).

SAFCA Local Project Description

The following description of Natomas locality project is taken from the *Initial Study and Proposed Negative Declaration, SAFCA Local Project Revisions, Natomas Area Flood Control Improvement Project* (EIP 1994). The improvements included in the project are being designed to safely withstand flows up to 180,000 cubic feet per second in the lower American River channel. This project will likely make the Natomas Basin the last failure point along the American River, thus providing the basin with well above a 100-year level of flood protection independent of any improvement in flood control capability along the river upstream of Natomas. The project would also protect portions of the North Sacramento, Rio Linda and Elverta communities by controlling high flows in the lower Dry and Arcade Creek watersheds and by reducing flood stages in the Natomas East Main Drainage Canal (NEMDC) north of Dry Creek.

The elements of the SAFCA Local Project are summarized below:

NATOMAS EAST MAIN DRAINAGE CANAL (NEMDC)

- Raise portions of the east and west levees a maximum of 3.5 feet. West levee raising would extend from the pump station north of Dry Creek to approximately 1,700 feet south of W. El Camino, and east levee raising would extend from the existing Robla Creek levee to approximately 2,000 feet south of W. El Camino. Revisions to the local project are as follows: to avoid levee superiority issues, design the NEMDC east levee improvements with a topwidth of 20 feet rather than 15 feet as anticipated in the Approved Local Project. Widen the top width of the project reach of the west levee north of Sotnip Road from 20 feet as shown in the Approved Local Project to 30 feet in order to better comply with current City of Sacramento design criteria.
- Construct stoplog structures at the east and west ends of the El Camino Avenue bridge crossing of the NEMDC.
- Construct additional temporary stoplog structure at West Main Avenue until the Main Avenue Bridge replacement is constructed as part of the Approved Local Project.

MAIN AVENUE BRIDGE

- Construct a new four-lane high level bridge across the NEMDC and Union Pacific Railroad at Main Avenue based on the County and City's commitment to cost-share in the betterment.

NEMDC PUMPING PLANT

- Construct a new pump station and gated control structure across the NEMDC approximately 2,600 feet north of the confluence of Dry Creek.

ARCADE CREEK

- Raise the north levee between the NEMDC and Marysville Boulevard a maximum of 3 feet. Revisions include the following: to avoid levee superiority issues, raise the north levee a maximum of an additional two feet to match the top elevation on the south levee and assure low points are not left in upstream reaches.
- Using a combination of earth fill and flood wall, raise the south levee west of Marysville Boulevard a maximum of 3 feet for a 500-foot reach. Revisions

include the following: the flood wall of the south levee will extend from Marysville Boulevard to Rio Linda Boulevard, and minor levee modifications of the south levee (top only fill with no sliver fills) will be undertaken to match north levee modifications.

- Construct stoplog structures at the north and south ends of the Norwood Avenue bridge crossing of Arcade Creek.
- Construct additional stoplog structures at Rio Linda Boulevard; or tie the levee or floodwall into the existing concrete bridge rail.

DRY/ROBLA CREEK

- Construct a new levee with a maximum levee height of 12.5 feet along the Union Pacific Railroad, Ascot Avenue, 4th Street and Rio Linda Boulevard with the east-west reach as a meandering alignment located between 100 to 800 feet south of Ascot Avenue, and the north-south reach to the rear of existing residential lots located along 4th Street. A portion of this section (the north-south) would be constructed as a flood wall. Revisions are as follows: Realign the Dry Creek north levee in two reaches. First, where the levee passes under the PG&E towers near 2nd Street and Ascot Avenue, move the embankment closer to the towers so that the required clearance from the top of levee to the power cable can potentially be met without raising the towers. Second, realign the levee to provide protection to all or portions of several additional properties (APN's 214-0160-070, 214-0160-090), which lie between the North Dry Creek and Dry Creek channels southwest of Marysville Boulevard. This will require: 1) abandonment of the North Dry Creek channel between Marysville Boulevard and the North Dry Creek-Dry Creek confluence; and 2) realigning the North Dry Creek channel to flow along the northeast side of Marysville Boulevard and connect with Dry Creek upstream of the Marysville Boulevard-Dry Creek bridge. As an alternative, the levee and North Dry Creek Channel could be relocated along the southwest side of Marysville Boulevard. The revised alignment would avoid loss of the existing North Dry Creek riparian vegetation and reduce impacts to the residential lots along 4th Street which would occur under the approved local project.
- Raise the existing south Dry/Robla Creek levee a maximum height increase of 8 feet across Rio Linda Boulevard north of Claire Avenue. As a result, Rio Linda Boulevard would need to ramp over the new levee. To accommodate the vertical raising, the profile of Rio Linda Boulevard would be adjusted for a length of

about 650 feet on either side of the new levee crossing. Revisions are as follows:
Construct an additional stoplog structure at Rio Linda Boulevard.

- Extend the south Dry/Robla Creek levee across Rio Linda Boulevard and another along the existing bike trail to the confluence of Robla Creek and the Magpie Creek Diversion channel. Maximum height approximately 11 feet. Revisions are as follows: Realign the Dry/Robla Creek levee slightly to the north along a diagonal route. Obtain additional right-of-way and extend construction further up the Magpie Diversion channel.

SANKEY ROAD IMPROVEMENTS

- Raise Sankey Road from the Union Pacific Railroad west to Natomas Road.
- Construct a new drainage channel from Sankey Road to the NEMDC channel and enlarge portions of the existing NEMDC to convey greater flows south.
- Construct a new box culvert under Sankey Road to accommodate greater flows as discussed above.
- Relocate the railroad spur line and loading dock facility near Sankey Road.

PLEASANT GROVE CREEK CANAL

- Construct a stoplog structure and retaining wall at the west end of the Fifield Road Bridge.
- Raise the Pleasant Grove Creek Canal west levee and Howsley Road.

NATOMAS CROSS CANAL

- Raise the existing south levee east of the Garden Highway to approximately State Highway Route 99.

AMERICAN RIVER NORTH LEVEE

- Raise a 200-foot reach of the American River north levee (the Garden Highway) between 0.0 and 0.5 feet by means of building up the existing asphalt pavement.

- Construct a stop log structure on the north side of the Northgate Boulevard NEMDC bridge approach.
- Construct additional stoplog at the UPRR track west of Del Paso Boulevard.

BORROW FILL MATERIAL SITES

Two locations within the NEMDC interior and a site located generally west of Sorento Road and north of Del Paso Road have been identified as primary borrow sites to meet project fill needs. The Garden Highway site would serve as backup to these sites. Revisions are as follows: Five additional borrow sites have been identified as the primary borrow site for the NEMDC, Dry/Robla Creek, and Arcade Creek improvements. These sites have been identified as sites 2C, 2D, 2E, 2N, and 2L and are located respectively north and east of the Sorento Road borrow sites. Sites 2L and 2N are the primary borrow sites for the Local Project Revisions. Sites 2C, 2D and 2E are proposed as alternate borrow sites, to sites 2L and 2N. Site 2L would be purchased and developed as part of SAFCA's wetland/upland mitigation complex to compensate for project impacts.

This documentation has been prepared at the request of the Sacramento Area Flood Control Agency (SAFCA), to satisfy the requirements of the *Historic Properties Treatment Plan for Reclamation District 1000 Rural Historic Landscape* (Dames & Moore 1996), prepared for the U.S Army Corps of Engineers. SAFCA's local project, as described above, is designed to provide the Natomas area and the RD 1000 rural historic landscape district with well above a 100-year flood protection. This improved flood protection will contribute to an increase in development pressures within the district. The resulting increase in development that will result from the improved flood protection will have an adverse effect on the contributing elements of the district--the drainage and road systems, and large scale land patterns--due to the physical destruction or alterations of these resources. Alterations to the individual contributing resources will result of a loss of integrity to the district.

Principal investigator for this documentation was Melinda Peak of Peak & Associates, Inc., with the guidance of architectural historian Ward Hill of San Francisco. The photographer is Keith Sutter of Auburn, California. The documentation is based on previous research conducted by Michael Corbett and Denise Bradley of Dames & Moore, Inc. of Chico, California, under contract to the U.S Army Corps of Engineers, for the nomination of the district to the National Register of Historic Places (*Rural Historic Landscape Report for Reclamation District 1000 for the Cultural Resources Inventory and Evaluations for the American River Watershed Investigation, Sacramento and Sutter Counties, California, 1995*).

HISTORIC AMERICAN ENGINEERING RECORD

INDEX TO PHOTOGRAPHS

Reclamation District 1000
NW Sacramento County and SW Sutter County, bisected by CA Highway 99
Sacramento Vicinity
Sacramento and Sutter Counties
California

HAER NO. CA-187

Keith Sutter, Photographer April 1996

- CA-187-1 OVERVIEW FROM CROSS CANAL LEVEE, FACING SOUTHEAST.
- CA-187-2 OVERVIEW FROM INTERSECTION OF GARDEN HIGHWAY AND SANKEY ROAD, FACING NORTHEAST.
- CA-187-3 OVERVIEW FROM RIEGO ROAD BETWEEN HIGHWAY 99 AND NATOMAS ROAD, FACING SOUTH.
- CA-187-4 OVERVIEW FROM NATOMAS ROAD, NORTH OF SANKEY ROAD, FACING NORTHWEST.
- CA-187-5 OVERVIEW FROM GARDEN HIGHWAY, WEST OF POWERLINE, FACING NORTHWEST.
- CA-187-6 OVERVIEW LOOKING DOWN POWERLINE ROAD, FROM SANKEY ROAD, FACING SOUTH.
- CA-187-7 VIEW OF EAST LEVEE FROM RIEGO ROAD, FACING SOUTHEAST.
- CA-187-8 VIEW OF EAST LEVEE FROM RIEGO ROAD, FACING NORTHWEST.
- CA-187-9 VIEW OF RIVER LEVEE NORTH OF RIEGO ROAD, SACRAMENTO RIVER ON LEFT, FACING NORTH-NORTHWEST.
- CA-187-10 VIEW OF RIVER LEVEE NEAR PUMP PLANT 5, FACING SOUTHEAST.
- CA-187-11 VIEW OF RIVER LEVEE SOUTH OF ELVERTA, FACING NORTHEAST.
- CA-187-12 VIEW OF CROSS CANAL FROM BRIDGE AT GARDEN HIGHWAY, FACING NORTHEAST.
- CA-187-13 VIEW OF CROSS CANAL FROM SOUTH LEVEE, FACING SOUTHWEST.

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- CA-187-14 VIEW OF CROSS CANAL LEVEE FROM SOUTH LEVEE, FACING
NORTHEAST.
- CA-187-15 VIEW OF NATOMAS EAST MAIN DRAINAGE CANAL FROM NATOMAS
ROAD, SOUTH OF RIEGO ROAD, FACING NORTH-NORTHWEST.
- CA-187-16 VIEW OF NATOMAS EAST MAIN DRAINAGE CANAL FROM NATOMAS
ROAD, SOUTH OF SANKEY, FACING SOUTH-SOUTHEAST.
- CA-187-17 VIEW OF PLEASANT GROVE CANAL FROM NATOMAS ROAD NORTH
OF SANKEY, FACING NORTH.
- CA-187-18 VIEW OF NORTH DRAINAGE CANAL FROM SANKEY ROAD, FACING
SOUTH.
- CA-187-19 VIEW OF EAST DRAINAGE CANAL FROM ELVERTA ROAD, FACING
SOUTH.
- CA-187-20 VIEW OF EAST DRAINAGE CANAL FROM ELVERTA ROAD, FACING
NORTH.
- CA-187-21 VIEW OF WEST DRAINAGE CANAL FROM POWERLINE ROAD, FACING
WEST.
- CA-187-22 VIEW OF CANAL CONNECTING PUMP PLANT 3 AND WEST DRAINAGE,
FACING EAST.
- CA-187-23 VIEW OF NATOMAS MAIN CANAL NORTH OF PUMP PLANT 1A/1B,
FACING NORTHWEST.
- CA-187-24 VIEW OF NATOMAS MAIN CANAL NORTH OF PUMP PLANT 1A/1B,
FACING SOUTH.
- CA-187-25 VIEW OF SMALL DITCH PARALLEL TO POWERLINE ROAD SOUTH OF
SANKEY ROAD, FACING SOUTH.
- CA-187-26 VIEW OF SMALL DITCH FROM DEL PASO ROAD, FACING NORTH.
- CA-187-27 VIEW OF GARDEN HIGHWAY FROM WEST OF POWERLINE ROAD
INTERSECTION, FACING WEST- NORTHWEST.

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- CA-187-28 VIEW OF GARDEN HIGHWAY SOUTH OF RIEGO ROAD, FACING NORTH-NORTHEAST.
- CA-187-29 VIEW OF GARDEN HIGHWAY NORTH OF INTERSTATE 5, FACING NORTHWEST.
- CA-187-30 VIEW OF EAST LEVEE/NATOMAS ROAD FROM NORTH OF INTERSECTION WITH RIEGO ROAD, FACING NORTH.
- CA-187-31 VIEW OF RIEGO ROAD FROM GARDEN HIGHWAY, FACING EAST.
- CA-187-32 VIEW OF ELVERTA ROAD FROM EAST SIDE OF HIGHWAY 99, FACING EAST.
- CA-187-33 VIEW OF ELKHORN ROAD NEAR INTERSECTION WITH POWERLINE ROAD, FACING EAST.
- CA-187-34 VIEW OF DEL PASO ROAD NEAR INTERSECTION WITH POWERLINE ROAD, FACING EAST.
- CA-187-35 VIEW OF SAN JUAN ROAD FROM GARDEN HIGHWAY, FACING EAST.
- CA-187-36 VIEW OF POWERLINE ROAD FROM GARDEN HIGHWAY, FACING WEST.
- CA-187-37 VIEW OF FIELD ROAD FROM POWERLINE ROAD, FACING WEST.
- CA-187-38 Photocopy of photograph (original photograph in possession of Sacramento Archives and Museum Collection Center, Sacramento, California)
Original photographer and year unknown.
PUMPKINS ON LINCOLN WHITE RANCH-RECLAMATION DISTRICT 1000.
- CA-187-39 Photocopy of photograph (original photograph in possession of Sacramento Archives and Museum Collection Center, Sacramento, California)
Original photographer unknown, 1924.
F. L. MARTIN AND A. B. CARTER RANCH IN NATOMAS DISTRICT NO. 1000.
- CA-187-40 Photocopy of photograph (original photograph in possession of Sacramento Archives and Museum Collection Center, Sacramento, California)
Original photographer and year unknown.

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HAER NO. CA-187
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F. L. AZEVEDO FOURTH CUTTING HAY IN NATOMAS DISTRICT NO. 1000.

- CA-187-41 Photocopy of photograph (original photograph in possession of Sacramento Archives and Museum Collection Center, Sacramento, California)
Original photographer and year unknown.
A WHEAT FIELD ON THE NATOMAS LANDS.
- CA-187-42 Photocopy of photograph (original photograph in possession of Sacramento Archives and Museum Collection Center, Sacramento, California)
Original photographer and year unknown.
BEANS GROWING ON THE PHILIP S. DRIVER ESTATE LANDS IN NATOMAS DISTRICT NO. 1000.
- CA-187-43 Photocopy of photograph (original photograph in possession of Sacramento Archives and Museum Collection Center, Sacramento, California)
Original photographer and year unknown.
RICE GROWN BY CHAS. G. JOHNSON ON NATOMAS LANDS IN DISTRICT NO. 1000.
- CA-187-44 Photocopy of photograph (original photograph in possession of Sacramento Archives and Museum Collection Center, Sacramento, California)
Original photographer unknown, Feb 27, 1914.
DISTRICT 1000 NEWLY COMPLETED SAND-CORE RIVER LEVEE, STA. 660.
- CA-187-45 Photocopy of photograph (original photograph in possession of Sacramento Archives and Museum Collection Center, Sacramento, California)
Original photographer and year unknown.
A PORTION OF THE MAIN IRRIGATION CANAL OF THE NATOMAS CENTRAL MUTUAL WATER COMPANY ON POWER LINE ROAD.
- CA-187-46 Photocopy of photograph (original photograph in possession of Sacramento Archives and Museum Collection Center, Sacramento, California)
Original photographer unknown, February 6, 1915.
N.E. RAILWAY AND CROSS CANAL LOOKING NORTH FROM PLEASANT GROVE STATION.
- CA-187-47 Photocopy of photograph (original photograph in possession of Sacramento Archives and Museum Collection Center, Sacramento, California)
Original photographer and year unknown.
THE GARDEN HIGHWAY BORDERING NATOMAS LANDS LOOKING

RD 1000
HAER NO. CA-187
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WEST. SACRAMENTO RIVER TO THE LEFT AND PEAR ORCHARDS TO
THE RIGHT.

CA-187-48 Photocopy of photograph (original photograph in possession of Sacramento
Archives and Museum Collection Center, Sacramento, California)
Original photographer and year unknown.
THE GARDEN HIGHWAY BORDERING NATOMAS LANDS.

HISTORIC AMERICAN ENGINEERING RECORD

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NW Sacramento County and SW Sutter County, bisected by CA Highway 99
Sacramento Vicinity
Sacramento and Sutter Counties
California

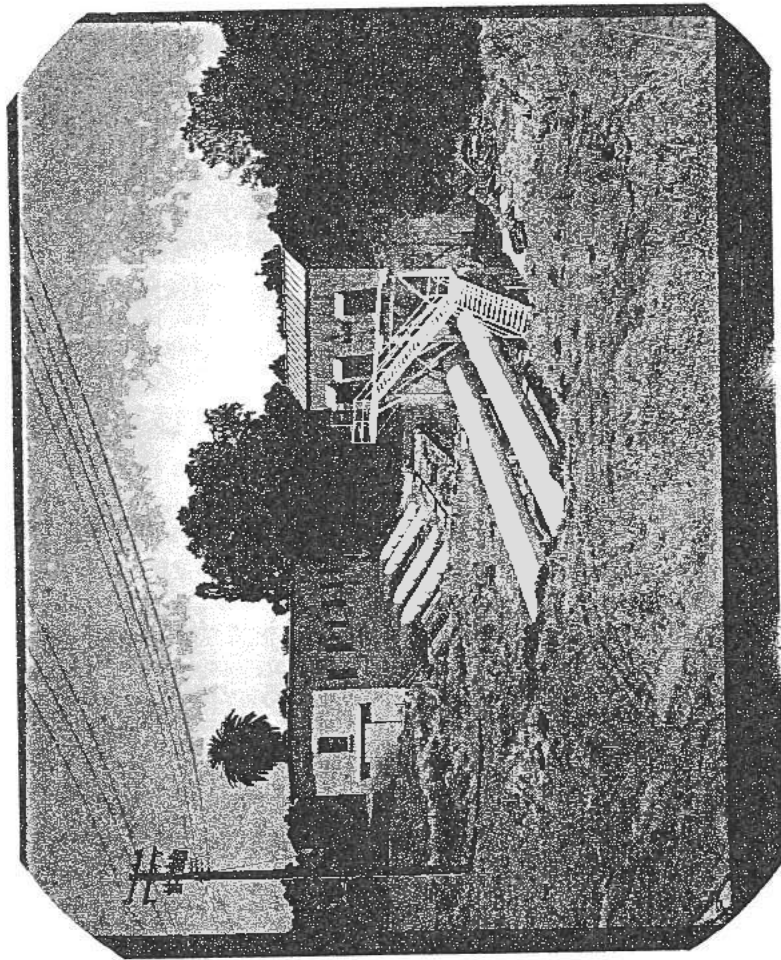
HAER NO. CA-187-A

Keith Sutter, Photographer April 1996

CA-187-A-1 VIEW OF PUMP PLANT 1A, FACING NORTHWEST.

HISTORIC AMERICAN BUILDINGS SURVEY
SEE INDEX TO PHOTOGRAPHS FOR CAPTION

HABS No. CA-187-A-1



HISTORIC AMERICAN ENGINEERING RECORD

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Reclamation District 1000, Pump Plant 2

HAER NO. CA-187-B

NW Sacramento County and SW Sutter County, bisected by CA Highway 99

Sacramento Vicinity

Sacramento and Sutter Counties

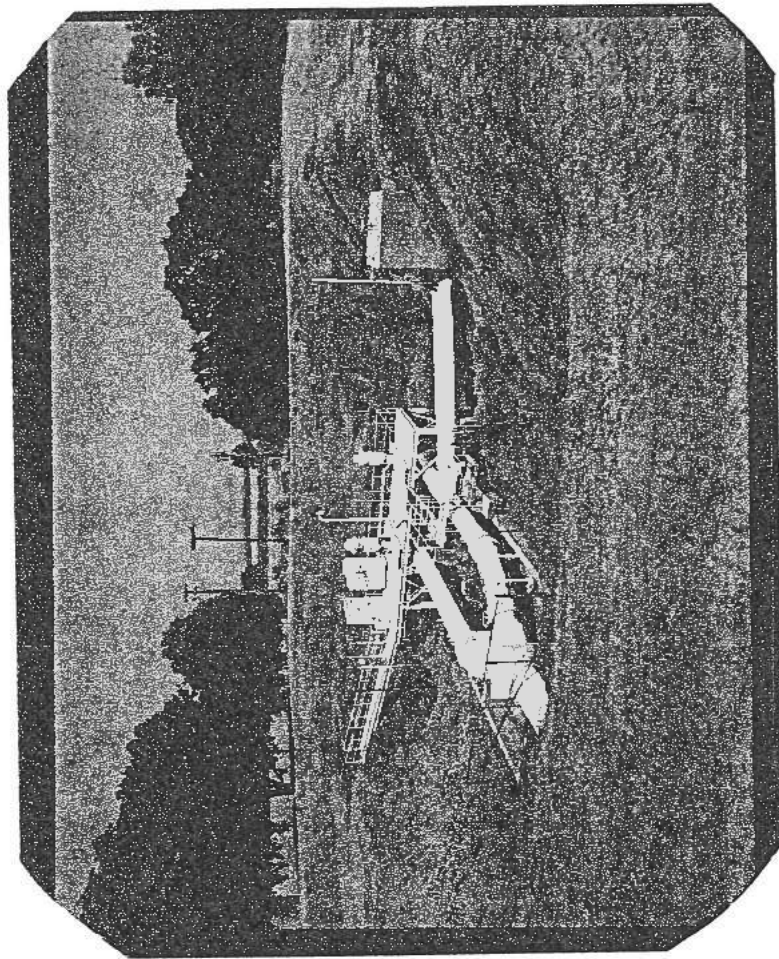
California

Keith Sutter, Photographer April 1996

CA-187-B-1 VIEW OF PUMP PLANT 2, FACING EAST.

HISTORIC AMERICAN BUILDINGS SURVEY
SEE INDEX TO PHOTOGRAPHS FOR CAPTION

HABS No. CA-167-B-1



HISTORIC AMERICAN ENGINEERING RECORD

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Reclamation District 1000, Pump Plant 3

HAER NO. CA-187-C

NW Sacramento County and SW Sutter County, bisected by CA Highway 99

Sacramento Vicinity

Sacramento and Sutter Counties

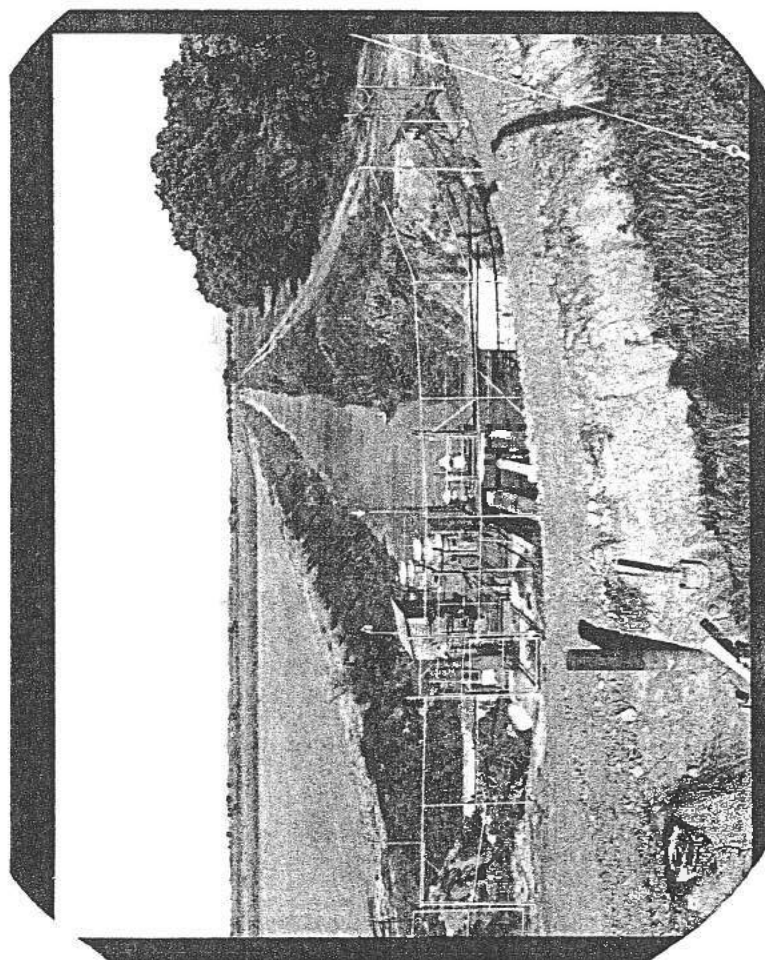
California

Keith Sutter, Photographer April 1996

CA-187-C-1 VIEW OF PUMP PLANT 3, FACING EAST.

HISTORIC AMERICAN BUILDINGS SURVEY
SEE INDEX TO PHOTOGRAPHS FOR CAPTION

HABS No. DA-137-C-1



PRIMARY RECORD

Primary #: P- 34-005260

HRI #:

Trinomial:

NRHP Status Code:

Resource Name or #: Natomas Drainage Ditch

Other Listings:

Review Code:

Reviewer:

Date:

Page 1 of 3

P1. Other Identifier:

P2. Location: Unrestricted

a. County: Sacramento

b. USGS 7.5' Quad: Taylor Monument

Date: 1980

T 9 N/R 4 E; SW 1/4 of SW 1/4 of Sec.2 MDBM

c. Address: Del Paso Road

City: Sacramento

Zip: 95835

d. UTM: Zone: 10

Northwest end

628762mE

4279840 mN (WGS84)

Southeast end

628882mE

4279725 mN (WGS84)

e. Other Locational Information:

P3a. Description: This structure consists of a drainage ditch that was once part of Reclamation District 1000. Only a 565-foot portion of the ditch was recorded. Both ends of this recorded segment have been filled in and the ditch is no longer functioning. It is an earthen ditch excavated into the ground and no berm on either side.

P3b. Resource Attributes: AH 6. Water conveyance system

P4. Resources Present: Structure

P5. Photograph or Drawing:

P5b. Description of Photo: View of ditch facing southeast.



P6. Date Constructed/Age and Sources:

circa 1910-1935

P7. Owner and Address:

City of Sacramento and
LProp Cougar LLC
P.O. Box 670
Upland, CA 91785

P8. Recorded by:

Tom Origer & Associates
P.O. Box 1531
Rohnert Park, CA 94927

P9. Date Recorded:

September 2018

P10. Type of Survey:

Intensive

P11. Report Citation:

Hennessy, R. and E. Barrow

2018 *Cultural Resources Study for the Natomas Town Center Project, Sacramento, Sacramento County, California*

P12. Attachments: Linear Feature Record, Location Map

LINEAR FEATURE RECORD

Primary # P-34-005260

HRI #:

Trinomial:

NRHP Status Code:

Resource Name or #: Natomas Drainage Ditch

Other Listings:

Review Code:

Reviewer:

Date:

Page 2 of 3

L1. Historic and/or Common Name: none

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

b. Location of point or segment: See Primary Sheet

L3. Description: This ditch segment is an earthen ditch measuring approximately 565 feet in length. It once flowed in a northwest/southeast direction, though construction activities have filled in the ditch at both ends.

L4. Dimensions: (on average)

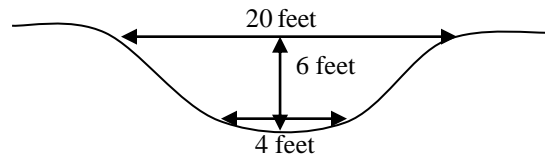
a. Top Width: 20 feet

b. Bottom Width: 4 feet

c. Height or Depth: 6 feet

d. Length of Segment: 565 feet

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



L5. Associated Resources: Reclamation District 1000

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

L7. Integrity Considerations: This drainage ditch was identified as an element to Reclamation District 1000's importance as an historical district. However, portions of the ditch have been filled in since the district was evaluated. In addition, the adjacent parcels surrounding the ditch have been developed which further detracts from the ditch's original rural agricultural setting. Because of the intrusion of development surrounding this ditch segment and due to the damage to the drainage ditch itself, this portion of the drainage ditch no longer retains the integrity of design, setting, feeling, and association. This portion of the ditch no longer appears to be a contributing element to the Reclamation District 1000's importance and is not considered an historic property.

L8a. Photograph, Map or Drawing

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

L9. Remarks:

L10. Form Prepared by:

Tom Origer & Associates

P.O. Box 1531

Rohnert Park, CA 94927

L11. Date: September 2018

LOCATION MAP

Primary #: P- 34-005260

HRI #:

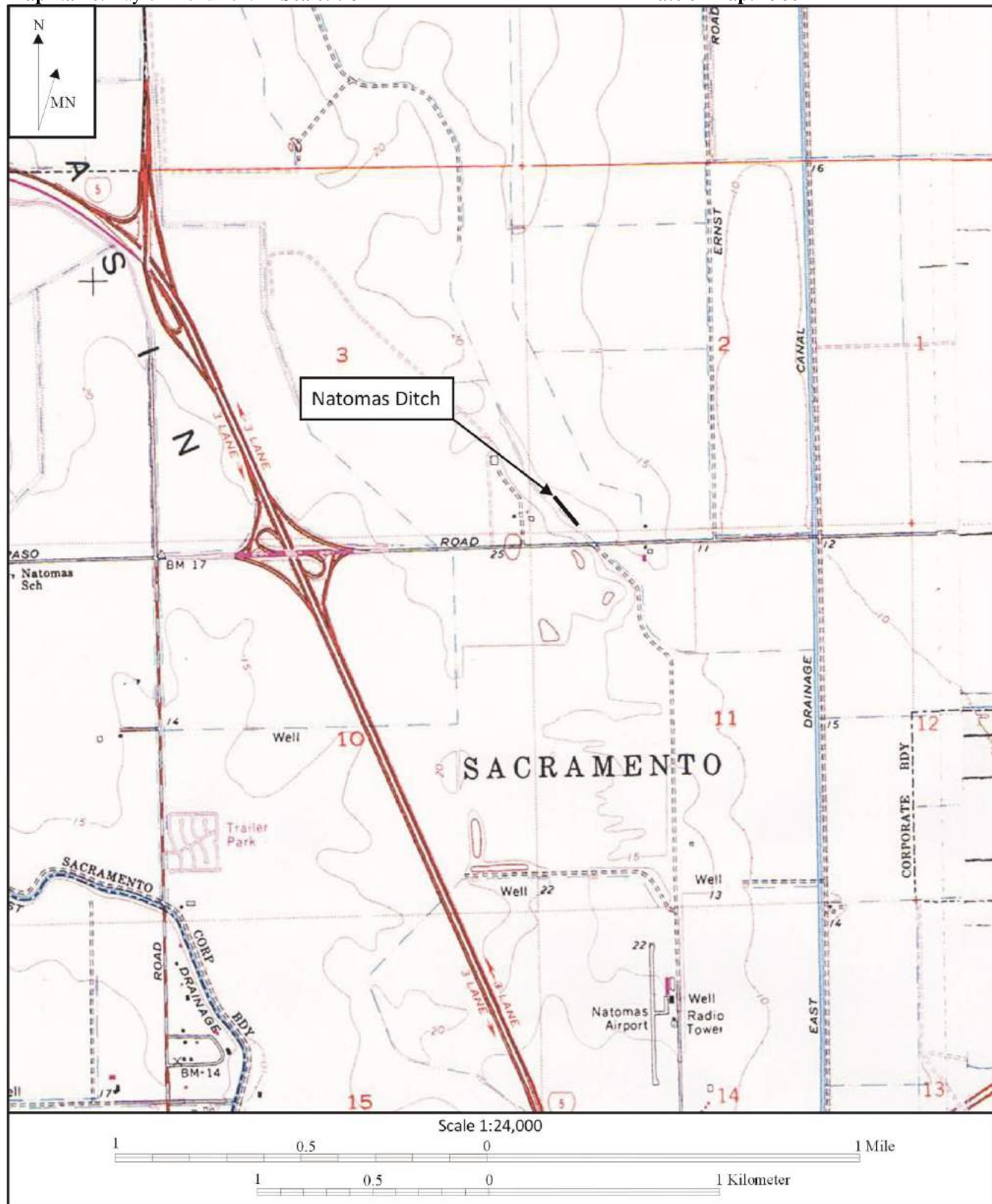
Trinomial:

Resource Name or #: Natomas Drainage Ditch

Date of Map: 1980

Page 3 of 3

Map Name: Taylor Monument **Scale:** 7.5'



APPENDIX E



Survey Photographs



Photo 1. APE overview - view to east, Del Paso Road on right.



Photo 2. APE overview - view to north.



Photo 3. Possible prehistoric debitage - chert flake.



Photo 4. Marine shell fragment



Photo 5. Abandoned Natomas Ditch segment - view to northwest.



Photo 6. Abandoned Natomas Ditch segment - view to east.

APPENDIX F
— ♦ ♦ ♦ —
Site Records

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

Primary #
HRI#
Trinomial

Page 1 of 2

*Resource Name or #: P-34- 005251 Reclamation District 1000

*Recorded by: Coleman, Talcott, and Wolpert *Date: December 13, 2019 ☐ Continuation ☒ Update

Originally recorded by M. Peak in 1997, this resource is a historic district consisting of 87 square miles of agricultural land characterized by a grid pattern of large fields partitioned by canals, roads, and levees. The initial features were constructed from 1912-1916 with new additions and modifications into the present day. The Historic District transformed the region and was one of the first and largest of the major reclamation districts in the state. Reclamation District 1000 was determined eligible for the National Register of Historic Places (NRHP) in 1994.

In December of 2019, Solano Archaeological Service's (SAS) crew surveyed a small parcel of the District for the Los Rios Community College District Natomas Center Parking Lot Expansion and Phase 2 and 3 Project Buildout. During survey SAS updated a small 395-foot segment of the Natomas Drainage Ditch (P-34-005260). The ditch was a feature of the District that is no longer functioning after suburban development filled in portions of the resource. The Natomas Drainage Ditch segment was the only District feature in the SAS project area. Since no additional structural features associated with Reclamation District 1000 were observed, no updates or condition assessments were made for those features. However, the damage to the Natomas Drainage ditch from suburban development has likely impact other features of the District since it was last recorded in 1994.

Crew: S. Talcott and A. Wolpert

Affiliation: Solano Archaeological Services, 131 Sunset Avenue, Ste. E 120, Suisun, CA 94585

Date of Relocation: December 13, 2019

Resource Condition: Good

NRHP Eligibility: Eligible



Overview with Natomas Drainage Ditch, facing northeast

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

Primary # P-34-005251
HRI#
Trinomial

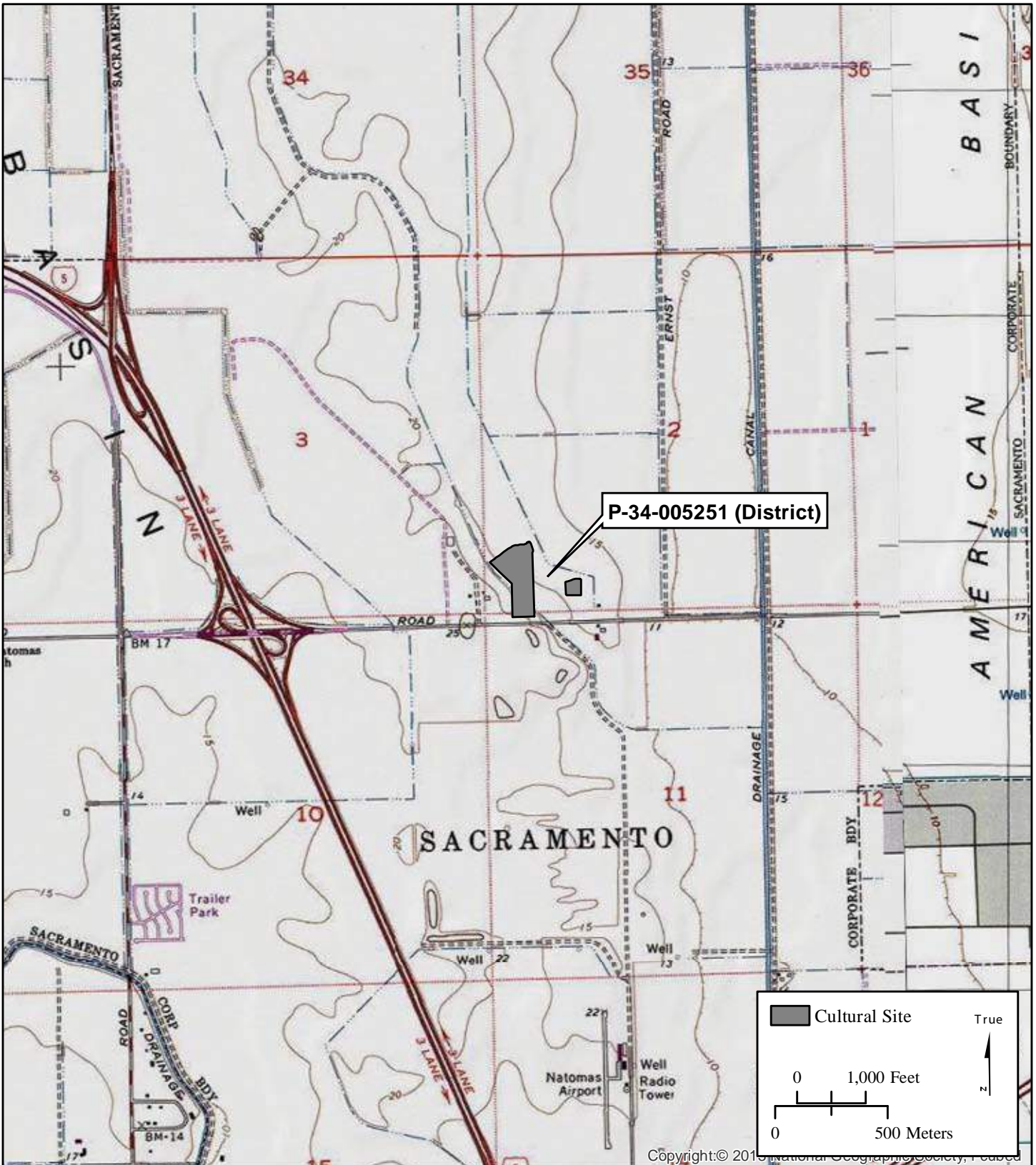
Page 2 of 2

*Resource Name or #

*Map Name: Taylor Monument

*Scale: 1:24,000

*Date of Map: 1980



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

Primary #
HRI#
Trinomial

Page 1 of 2

*Resource Name or #: P-34-005260 Natomas Drainage Ditch

*Recorded by: Coleman, Talcott, and Wolpert

*Date: December 13, 2019

☐ Continuation

☒ Update

Originally recorded by Tom Origer & Associates in 2018, this resource consists of an earthen drainage ditch that was once part of Reclamation District 1000 (P-34-005251). The ditch does not have a berm on either side and is no longer functional. According to Tom Origer & Associates, damage to the drainage ditch and the surrounding suburban development detract from the ditch's original function and rural agricultural setting. Therefore, the ditch no longer retains historic integrity of design, setting, feeling, or association and does not appear to be a contributing element to the integrity of Reclamation District 1000.

In December of 2019, Solano Archaeological Service's crew relocated and updated the 595-foot segment of the drainage ditch for the Los Rios Community College District Natomas Center Parking Lot Expansion and Phase 2 and 3 Project Buildout. The relocated ditch runs northwest-southeast from just south of New Market Drive to where it terminates at Via Ingoglia. The resource is in fair condition, both ends have been filled in during adjacent parcel development and there is accumulated debris in the ditch from transient activity and vegetation growth. SAS concurs with Tom Origer & Associates assertion that the resource lacks historic integrity. The ditch segment does not appear eligible for NRHP or CRHR listing given the resource is not a functioning part of historic Reclamation District 1000.

Crew: S. Talcott and A. Wolpert

Affiliation: Solano Archaeological Services, 131 Sunset Avenue, Ste. E 120, Suisun, CA 94585

Date of Relocation: December 13, 2019

Resource Condition: fair

NRHP Eligibility Recommendation: Ineligible



Natomas Drainage Ditch from Via Ingoglia, facing northwest



Natomas Drainage Ditch, facing southeast



Overview of Natomas Drainage Ditch, facing northeast

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

Primary # P-34-005260
HRI#
Trinomial

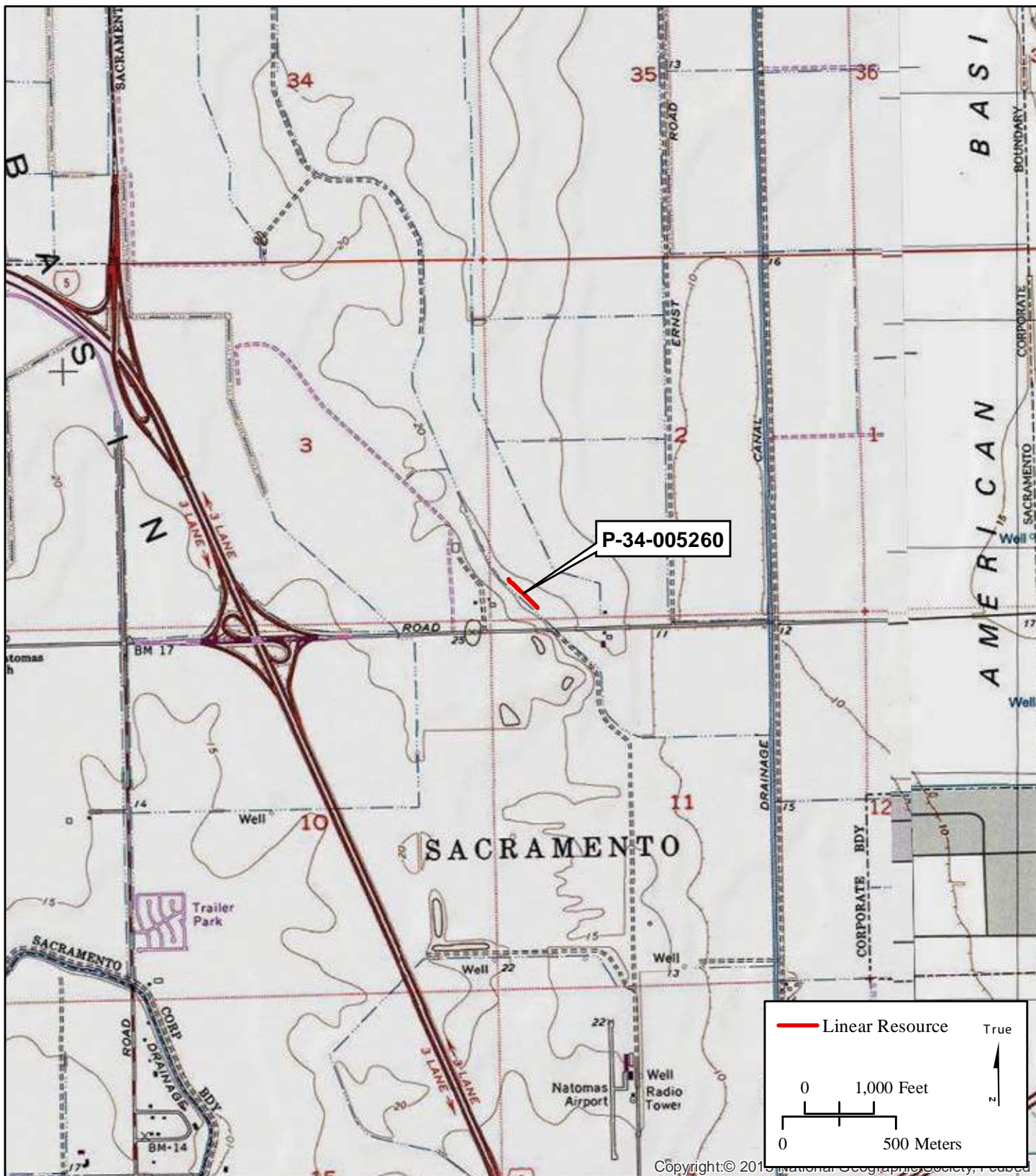
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*Resource Name or #

*Map Name: Taylor Monument

*Scale: 1:24,000

*Date of Map: 1980



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