

This section includes an evaluation of the potential impacts on cultural resources that could result from implementation of the proposed levee improvements. Cultural resources include buildings, sites, structures, objects, or districts that may have historical, architectural, archaeological, cultural, or scientific significance. Cultural resources may include archaeological traces such as early Native American occupation sites and artifacts, or historic-era resources. These materials can be found at many locations on the landscape and, along with prehistoric and historic human remains and associated grave goods, are protected under various federal and state statutes. The most inclusive of these are Section 106 of the National Historic Preservation Act and the California Environmental Quality Act (CEQA), which are described below. Fossils (the remains of prehistoric animals and plants) are addressed in Section 5.13, “Paleontological Resources.”

5.8.1 REGULATORY SETTING

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Section 106 of the National Historic Preservation Act of 1966 and its implementing regulations (36 Code of Federal Regulations [CFR] Part 800, as amended in 1999) requires federal agencies to consider the effects of their actions, or those they fund or permit, on properties that may be eligible for listing or are listed in the National Register of Historic Places (NRHP).

The NRHP is a register of 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. Cultural resources 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 represent the work of a master, or possess high artistic values, or 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.

To determine whether an undertaking could affect historic properties, cultural resources (including archaeological, historical, and architectural properties) must be identified, inventoried, and evaluated for listing in the NRHP. Although compliance with Section 106 is the responsibility of the lead federal agency, the work necessary to comply can be undertaken by others. The Section 106 process would need to be completed by any federal agency issuing a

permit for the Feather River Levee Repair Project (FRLRP), but it is not specifically required for CEQA compliance.

The Section 106 review process involves a four-step procedure:

- ▶ Initiate the Section 106 process by establishing the undertaking, developing a plan for public involvement, and identifying other consulting parties.
- ▶ Identify historic properties by determining the scope of efforts, identifying cultural resources, and evaluating their eligibility for inclusion in the NRHP.
- ▶ Assess adverse effects by applying the criteria of adverse effect on historic properties (resources that are eligible for inclusion in the NRHP).
- ▶ Resolve adverse effects by consulting with the State Historic Preservation Officer and other consulting agencies, including the Advisory Council on Historic Preservation if necessary, to develop an agreement that addresses the treatment of historic properties.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

CEQA includes cultural resources as an important component of its oversight and management policies. CEQA states that if a proposed project would result in an effect that may cause a substantial adverse change in the significance of a significant cultural resource (termed a “historical resource”), alternative plans or mitigation measures must be considered. Because only significant cultural resources need to be addressed, the significance of cultural resources must be determined before mitigation measures need to be developed.

CEQA Section 5024.1 (California Public Resources Code Section 5024.1) and Section 15064.5 of the State CEQA Guidelines (14 California Code of Regulations [CCR] Section 15064.5) define a historical resource as “a resource listed or eligible for listing on the California Register of Historical Resources.” A historical resource may be eligible for inclusion in the California Register of Historical Resources (CRHR) if it:

- (1) is associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
- (2) is associated with the lives of persons important to local, California, or national history;
- (3) embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of a master, or possesses high artistic values; or
- (4) has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

CEQA also distinguishes between two classes of archaeological resources: archaeological sites that meet the definition of a historical resource as above, and “unique archaeological resources.” An archaeological resource is considered “unique” if it:

- ▶ is associated with an event or person of recognized significance in California or American history or of recognized scientific importance in prehistory;
- ▶ can provide information that is of demonstrable public interest and is useful in addressing scientifically consequential and reasonable research questions;
- ▶ has a special or particular quality such as being the oldest, best example, largest, or last surviving example of its kind;
- ▶ is at least 100 years old and possesses substantial stratigraphic integrity; or
- ▶ involves important research questions that historical research has shown can be answered only with archaeological methods (Public Resources Code Section 21083.2).

The State CEQA Guidelines (14 CCR Section 15064.5[c]) also provide specific guidance on the treatment of archaeological resources, depending on whether they meet the definition of a historical resource or a unique resource.

The State CEQA Guidelines (14 CCR Section 15064.5[e]) also require that excavation be stopped whenever human remains are uncovered, and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of a Native American, the Native American Heritage Commission (NAHC) must be contacted within 24 hours, and the provisions for treating or disposing of the remains and any associated grave goods as described in CCR Section 15064.5 must be followed.

The steps normally taken in a cultural resources investigation for CEQA compliance are as follows:

- ▶ Identify cultural resources.
- ▶ Evaluate the significance of the resources.
- ▶ Evaluate the effects of a project on all cultural resources.
- ▶ Develop and implement measures to mitigate the effects of the project on significant resources.

LOCAL PLANS, POLICIES, REGULATIONS, AND LAWS

No local plans, policies, regulations, or laws related to cultural resources are applicable to the proposed project.

5.8.2 ENVIRONMENTAL SETTING

SOURCES OF INFORMATION

To identify cultural resources that may be affected as a result of project implementation, EDAW cultural resource specialists reviewed pertinent information about previous surveys and known cultural resources in the project area, consulted with appropriate Native American

representatives, and conducted a pedestrian cultural resources inventory of portions of the project area. Relevant portions of the research and survey information prepared in 2003 for the Feather River Levee Setback element of the Yuba-Feather Supplemental Flood Control Project (Y-FSFCP) and reported in the Y-FSFCP programmatic environmental impact report (EIR) (Yuba County Water Agency 2003) and accompanying cultural resources survey report (Jones & Stokes 2003) were used as appropriate.

Records Search and Literature Review

Records searches were conducted at the North Central Information Center (NCIC) of the California Historical Resources Information System. The NCIC administers the cultural resources records for a six-county area, including Yuba County. The searches included reviewing the NCIC's database of previous surveys and known cultural resources in the areas of potential project disturbance in the project area. Sources consulted during the records searches include the NRHP, the CRHR, secondary historical sources, historical maps, and inventories of historic resources in Yuba County.

Native American Consultation

Before conducting fieldwork, EDAW consulted with the NAHC and local Maidu Native American groups, consisting of the Butte Tribal Council and Enterprise Rancheria of Maidu Indians of Oroville, Maidu Elders Organization of Dobbins, and Maidu Nation of Susanville. The NAHC responded that the Sacred Lands File does not have records of Native American cultural resources in the project area. No response has been received to date from the local Maidu groups. Correspondence with these groups is presented in Appendix D.

Field Inventory

Previous archaeological surveys covered most of the existing Feather River and Yuba River levees in the FRLRP project area—specifically, project Segments 1 and 2 and a portion of Segment 3. For the present study, an archaeological inventory was conducted along the proposed Above Star Bend (ASB) and intermediate setback levee alignments and the portion of the existing Feather River levee in Segment 3 that was not covered in the previous survey efforts. As described below in “Results of Current Investigations within the Project Area,” portions of the setback levee alignments could not be surveyed because access to these areas was not available. Survey methods were consistent with the *Secretary of the Interior's Standards and Guidelines for Identification of Cultural Resources* (48 CFR 44720–44723). The presence of resources was recorded following the guidelines outlined in *Instructions for Recording Historical Resources* (California Office of Historic Preservation 1995).

The current inventory involved walking four parallel transects spaced at 25-meter (82-foot) intervals, resulting in the investigation of a 100-meter (328-foot)-wide footprint. A detailed sketch map was produced using a global positioning system (GPS) unit with accuracy to less than 3 meters (10 feet). Appropriate California Department of Parks and Recreation Series 523 forms were prepared as necessary. All sites and structures were photographed in their natural setting. Grass was removed periodically from areas with moderate cover to provide an adequate

sample of the ground surface. All areas of rodent disturbance, irrigation ditches, and other cut banks were inspected for the presence of subsurface cultural deposits.

Figures 5.8-1a and 5.8-1b, “Cultural Resources Surveys Conducted in the Project Area,” show survey coverage in the project area.

REGIONAL SETTING

Prehistoric Context

Generally speaking, the archaeology of Yuba County is included within the broad framework established by archaeologists for the Sacramento Valley. Although human occupation of the northern Sacramento Valley may extend back 10,000 years or more, reliable evidence of the presence of such an early human presence is lacking. Early archaeological sites bearing evidence of these Paleo-Indian populations may be present in the valley but deeply buried under alluvium (Moratto 1984). The following summary of the prehistoric cultural sequence is drawn primarily from Moratto (1984).

Reliable evidence of early occupation in the northern Sacramento Valley dates after 8,000 years before present (B.P.) (Johnson et al. 1984). The Borax Lake Pattern of the Lower Archaic Period (8000–5000 B.P.) is defined by certain material items such as wide-stemmed projectile points, hand-stones, milling stones, and bowl mortars. The Late Borax Lake Pattern, which archaeologists date to the Middle Archaic Period (5000–2500 B.P.), represents a continuation of the earlier Borax Lake Pattern. Late Borax Lake is distinguished from the earlier manifestation by a greater diversity of projectile point types and use of the spear thrower (atl-atl).

During the Upper Archaic Period (2500–1500 B.P.), early cultures of the Sacramento Valley exhibited a shift to predominant use of mortars and pestles instead of hand-stones and milling stones. This change may reflect an increased reliance on acorns as a staple food by the valley’s indigenous population.

The Emergent Period (1500–200 B.P.) in Sacramento Valley prehistory is represented by the Shasta Aspect of the Augustine Pattern. Shasta Aspect archaeological sites are typically located near watercourses, contain semi-subterranean dwellings and new artifact types, and reflect a hunting and gathering economy focused on acorn procurement. Moratto (1984) proposed that the Shasta Aspect represents the influence and intrusion of peoples from farther north in California. Toward the end of this period, extensive Euroamerican influences began to adversely affect native cultures throughout California.

Ethnographic Context

According to archaeological traces, documentary evidence, and oral history, the project area is located within the lands traditionally occupied by the Nisenan, or Southern Maidu. The language of the Nisenan, which includes several dialects, is classified within the Maidu family of the Penutian linguistic stock (Kroeber 1925, Shipley 1978). The western boundary of Nisenan territory was the western bank of the Sacramento River. The eastern boundary was “the line in the Sierra Nevada mountains where the snow lay on the ground all winter” (Littlejohn 1928).

Nisenan settlement locations depended primarily on elevation, exposure, and proximity to water and other resources. Permanent villages were usually located on low rises along major watercourses. Village size ranged from three living structures to up to 40 or 50. Dwellings consisted of domed structures covered with earth and tule reeds or grass and usually measured 10–15 feet in diameter. Simple brush shelters were used in the summer and at temporary camps during food gathering rounds. Larger villages often had semi-subterranean dance houses that were covered in earth and tule reeds or brush and had a central smoke hole at the top and an east-facing entrance. Another common village structure was a granary, which was used for storing acorns (Wilson and Towne 1978). Two Nisenan villages were located at or near the southern end of what is now the FRLRP project area (project Segment 1) (Wilson and Towne 1978).

The Nisenan occupied permanent settlements from which specific task groups set out to harvest the seasonal bounty of flora and fauna that the rich valley environment provided. The Valley Nisenan economy was focused on riparian resources, in contrast to that of the Hill Nisenan, whose resource base consisted primarily of acorn and game procurement. The only domestic plant used by the Nisenan was native tobacco (*Nicotiana* sp.), but many wild species were closely husbanded. The acorn crop from the blue oak (*Quercus douglasii*) and black oak (*Q. kelloggii*) was managed so carefully that its management served as the equivalent of agriculture. Acorns could be stored in anticipation of winter shortfalls. Deer, rabbit, and salmon were the chief sources of animal protein in the Nisenan diet, but many other insect and animal species were taken when available. In large part, Nisenan lifeways remained unchanged for many generations before significant Euroamerican incursions starting in the early decades of the 19th century.

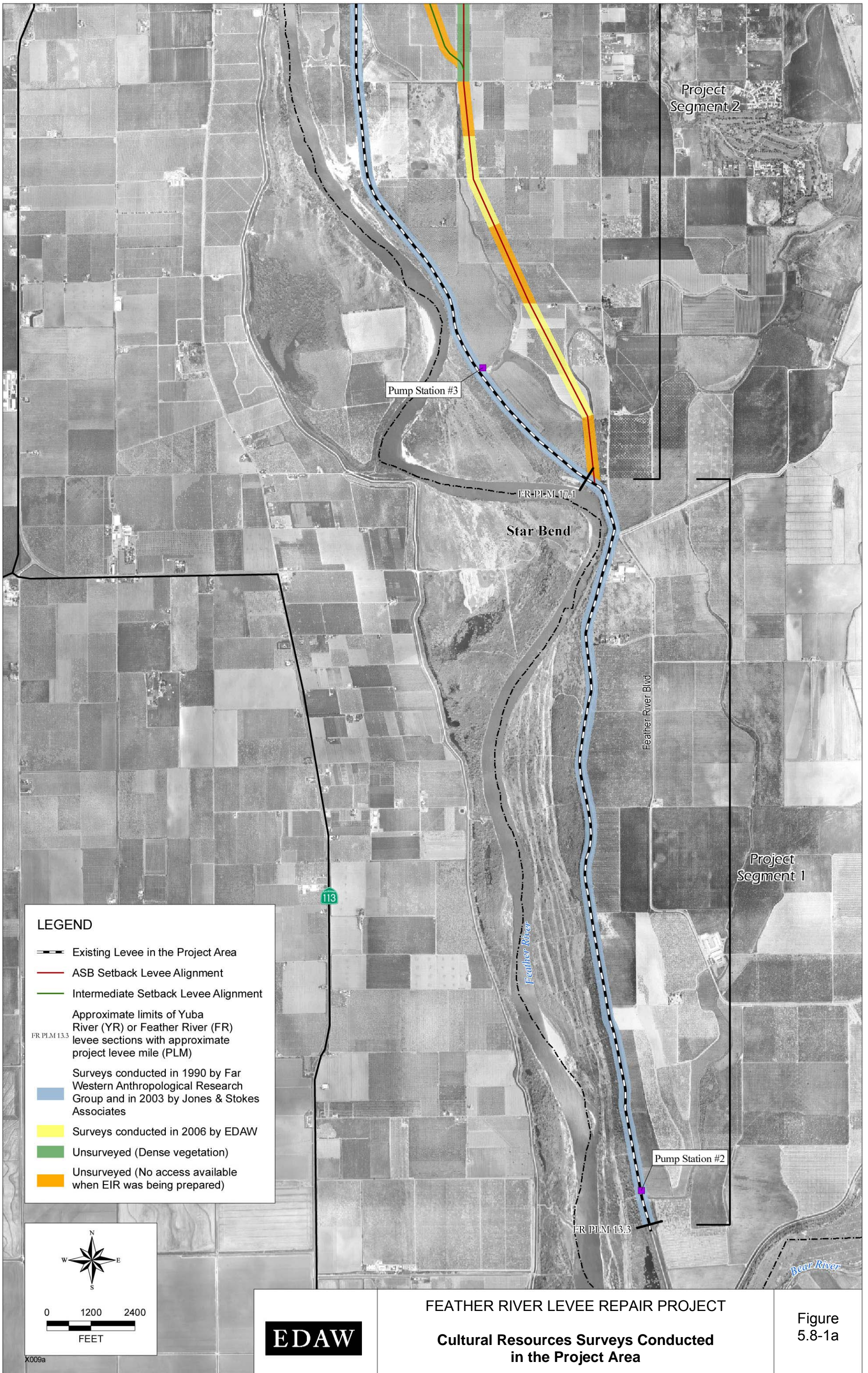
Historical Context

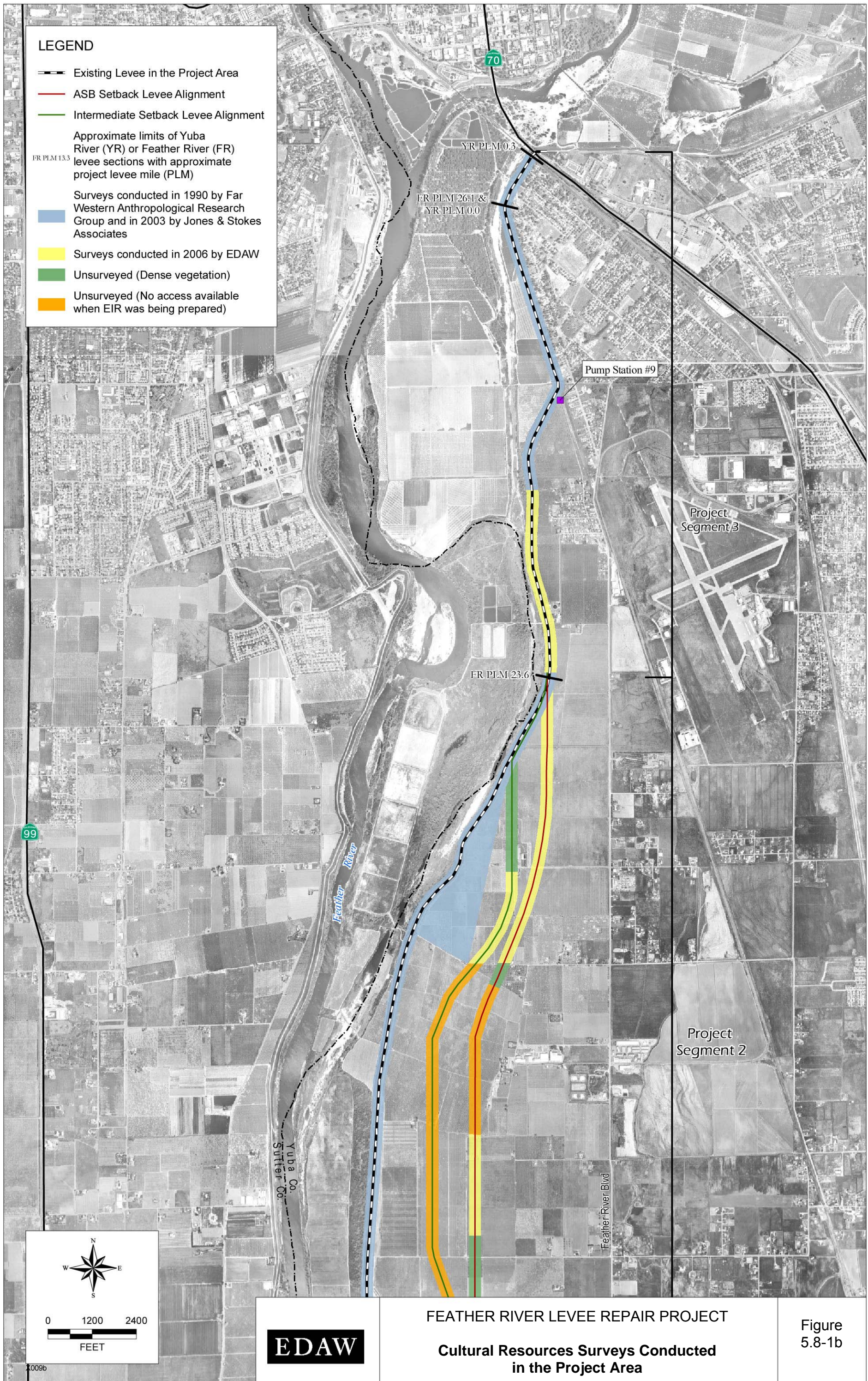
Exploration and Settlement

Europeans first explored the area that is now Yuba County in 1808, when Spanish explorer Gabriel Moraga led an expedition from Mission San Jose to the northern Sacramento Valley (Abeloe 1966, Gordon 1988). The earliest Euroamerican settlement in what is now Yuba County coincided with the establishment of land grants by the Mexican government. John A. Sutter obtained the first such grant in the region in 1841. Sutter's New Helvetia Rancho encompassed lands on the left (east) bank of the Feather River, including what is now the FRLRP project area (General Land Office 1859).

Mining

Beginning in 1849, prospectors and entrepreneurs overran the streams of the Sierra Nevada in search of riches. Miners initially established their claims and workings on watercourses and then gradually worked back from the flats adjacent to streams, ridges, and hillsides. By 1857, hydraulic mining began to replace the smaller-scale placer methods and extracting placer gold was no longer restricted to the immediate stream channel and bars. Debris from hydraulic operations destroyed or buried many of the older mining camps (Hoover et al. 1966).





Sources: EDAW 2006; GEI Consultants, Inc. 2004; Aerial provided by GEI Consultants, Inc.

Although there are no records of large-scale mining in the project vicinity, the industry had considerable indirect effects on historical developments in the region. The diggings and mines in the nearby foothills dramatically increased economic activity in the region, leading to increased prosperity and the rise of larger and more numerous support industries such as cattle ranches and farms.

Meanwhile, the deposition of silt in Central Valley watercourses, including the Yuba and Feather Rivers, resulted in the raising of the riverbeds and increased flooding. Although the city of Marysville (immediately upstream of the FRLRP project area) experienced high waters every few years, there were no disastrous floods until December 1861 (Thompson & West 1879). As the waters receded, they left a deposit of 30–183 centimeters (11–72 inches) of sand on the bottomlands adjacent to the rivers. After 1861, catastrophic floods became more common, prompting the development of a levee system and beginning the process of land reclamation for agricultural purposes. In later years, other flood-control efforts were initiated as described below to further alleviate negative impacts on water quality and on the scale and frequency of seasonal flooding.

Agriculture and Flood Control

Initial efforts at flood control in the Central Valley were usually uncoordinated and consisted of small levees and drains constructed by individual landowners. These features proved insufficient to protect cultivated land, and much of the acreage east of the Feather River in the FRLRP project area remained marshland that was unsuited for agriculture (U.S. Geological Survey 1910, 1911). In 1861, the California Legislature created the State Board of Swampland Commissioners to effect reclamation of swamp and overflow lands. However, in 1866 the legislature terminated this board, and responsibility for swamp and overflow land fell to the individual counties. If a landowner could certify that he or she had spent at least \$2 per acre in reclamation, the county would refund the purchase price of the property to the owner. Speculators took advantage of this program and a period of opportunistic and often-irrational levee building followed. (Thompson 1958, McGowan 1961.)

In response to the flood of 1907, citizens of Yuba County formed Reclamation District (RD) 784, which includes the land in the FRLRP project area. In 1908, at the time of its formation, RD 784 encompassed 22,762 acres of land, much of which was owned by the Farm Land Investment Company. RD 784 built substantial levee and drainage systems to restrain floodwaters from the Yuba, Feather, and Bear Rivers and the Western Pacific Interceptor Canal and incorporated levees built by the Farm Land Investment Company and other landowners.

In 1911, the California Legislature established the State of California Reclamation Board (The Reclamation Board) to exercise jurisdiction over reclamation districts and levee plans. That year, the state approved and began implementation of the Sacramento River Flood Control Project (SRFCP). The ambitious project included the construction of levees, weirs, and bypasses along the Sacramento River and its tributaries to channel floodwaters away from population centers. Under the SRFCP, new reclamation districts were created and existing districts, such as RD 784, were placed under the jurisdiction of The Reclamation Board (JRP Historical Consulting Services 1994).

LOCAL SETTING

A review of historic maps indicates the potential for the presence of archaeological deposits associated with several historic structures within the FRLRP project area. The 1859 General Land Office Plat Map for Township 15 North, Range 3 East, depicts a house in Elizatown just below Eliza Bend along the east side of the old Feather River channel in the vicinity of the current left (east) bank levee of the Feather River (project Segment 3) and another house just to the south in Township 14 North, Range 3 East. Farther south on the same map, fields and a fence are depicted along the east side of the Feather River in project Segment 2 in the vicinity of the northern end of the ASB and intermediate setback levees proposed under Alternatives 2 and 3, respectively. Three houses (designated as “Beach’s,” “Wessenharer’s,” and “Mesick’s”) appear to have been located in the vicinity of the intermediate setback levee alignment proposed under Alternative 3, and another house was located adjacent to the Feather River, near the west end of the contemporary Broadway. Directly across from this later structure, on the west side of the Feather River in Sutter County, are structures labeled “Indian Rancheria,” “Hot House,” “Iron House,” and “Sutter’s House.” “Butterfield’s House” is identified along the east side of the river oxbow in the vicinity of the pump where Feather River Boulevard is adjacent to the levee, west of Star Bend. A north-south road extending from the Feather River north toward Marysville appears to be at least partially located within the project area and is depicted on a 1849 map of the Sacramento Valley (Derby 1849), and the Indian rancheria mentioned above is labeled simply “Indians and Sutter’s Hook Farm.”

CULTURAL RESOURCES IN THE PROJECT AREA

Previous Archaeological Investigations

The files maintained at the NCIC contain information on previously conducted archaeological investigations that occurred within 1/4 mile of the project area. A summary of the records of past investigations directly related to the project area is presented in Table 5.8-1, “Summary of Previous Investigations within ¼ Mile of the Project Area.” The findings of these past investigations are described briefly below.

Resources Previously Identified within the Project Area

Cultural resources previously identified within FRLRP project Segments 1 and 2 are described below. The records search did not reveal records of any cultural resources in Segment 3.

In 1953, archaeologists from the University of California, Berkeley (UC Berkeley) conducted salvage excavations at the request of a landowner who was proposing to build a dehydrator on a prehistoric village site identified as CA-Yub-5 (located in what is now project Segment 2), as documented by Elsasser and Baumhoff (1953). The UC Berkeley archaeologists removed the remains of several individuals and associated grave goods from the eastern portion of the site. The records of the burials themselves were minimal; however, grave goods included banjo ornaments, spire-topped Olivella (olive snail) shell beads, square-cut Olivella shell beads, Haliotis (abalone) shell ornaments, obsidian projectile points, and bone awls. No data recovery excavations were completed. Based upon recovered shell beads, the investigators indicated that the site appears to date from the Middle Archaic to the Upper Archaic Period. While not

Table 5.8-1
Summary of Previous Investigations within 1/4 Mile of the Project Area

Report Title	NCIC File No.	Author and Date	Resources Identified
Studies Within the Project Area			
<i>Archaeological Site Survey Record for CA-Yub-5</i>	—	Elsasser and Baumhoff 1953	CA-Yub-5
<i>Sacramento River Flood Control System Evaluation, Marysville–Yuba City Area Cultural Resources Survey</i>	—	Bouey 1990	CA-Yub-13 within the project area and other sites outside the project area
<i>Historic Resource Evaluation Report: Reclamation Facilities, RD 1001 and RD 784</i>	—	JRP Historical Consulting Services 1994	Facilities associated with RD 784 and with RD 1001 to the south
<i>Cultural Resources Survey for the Level (3) Communications Long Haul Fiber Optics Project—Segment WS04: Sacramento to Bakersfield</i>	3853	Nelson et al. 2000	None in the project vicinity
<i>Cultural Resources Inventory and Evaluation Report for the Yuba-Feather Supplemental Flood Control Project, Yuba County, California</i>	—	Jones & Stokes 2003	Prehistoric site CA-Yub-5 and historic resources C-YCWA-1 and YCWA-3 through C-YCWA-8 in the project area
<i>Class I Archaeological Survey, Reclamation District 784 Master Plan Update, Yuba County, California</i>	6724	Jensen 2005	None
Studies Near the Project Area			
<i>Archaeological Site Survey Record</i>	—	Elsasser 1953, Riddell 1960	CA-Yub-6
<i>Report on the Archeological Survey of the Bear River</i>	—	Stoll and Thompson 1961	CA-Yub-1312 and CA-Yub-1313, both 1/4 mile to 2 miles east of the project area
<i>Archaeological Site Survey Record</i>	—	Olsen 1957	CA-Yub-14
<i>Salvage of the Rio Oso Site, Yuba County, California</i>	444	Olsen and Riddell 1962	CA-Yub-14
<i>Cultural Resource Assessment of the Proposed Wastewater Treatment Plant Modification Along the Southern Bank of the Yuba River, Yuba County, California</i>	—	Peak & Associates Inc. 1988	None
<i>Negative Archaeological Survey Report, California Department of Transportation, Expenditure Authorization 297300</i>	2755	Offerman 1992	None
<i>Cultural Resources Survey and Investigation, Sacramento River Flood Control Project, Marysville–Yuba City Mitigation Area, Yuba County, California</i>	939	U.S. Army Corps of Engineers 1993	Historic refuse west of the project area
<i>Negative Archaeological Survey Report, California Department of Transportation, Expenditure Authorization OA2900 and 4A8900</i>	2755	Offerman 2001	None
<i>Cultural Resources Inventory and Evaluation Report for the Yuba-Feather Supplemental Flood Control Project, Yuba County, California</i>	—	Jones & Stokes 2003	In addition to sites in the project area (see above), CA-Yub-1312
<i>Archaeological Testing and Evaluation Report for the Feather-Bear River Setback Levee Project, Yuba County, California</i>	—	Jones & Stokes 2005	CA-Yub-1312 and CA-Yub-1313
<i>National Register of Historic Places Evaluation for CA-Yub-1312 and CA-Yub-1313, Feather-Bear Rivers Levee Setback Project, Yuba and Sutter Counties, California</i>	—	EDAW 2006	CA-Yub-1312 and CA-Yub-1313
<i>Cultural Resources Statement, West Linda Drainage Project</i>	2497	Storm n.d.	CA-Yub-164 to the east of the project area

Notes: NCIC = North Central Information Center; RD = Reclamation District
Source: Data compiled by EDAW in 2006

providing evidence to substantiate their claim, the investigators remarked that more than half of the 6,000-square-foot site had been destroyed before the salvage excavation by pothunters, who reportedly had excavated some 30 burials before 1953. In 2002, Jones & Stokes archaeologists performing surveys in the area for the Y-FSFCP confirmed the recorded location of site CA-Yub-5 and made additional observations, as described below (Jones & Stokes 2003).

Far Western Anthropological Research Group (Far Western Anthropological) conducted surveys along several sections of levee in the Marysville–Yuba City area, including the major portion of the existing levee within the FRLRP project area, in 1990 (Bouey 1990). One site, CA-Yub-13, was suspected to be directly adjacent to (west of) the left (east) bank levee, just south of Star Bend in project Segment 1. According to Bouey (1990), CA-Yub-13 was initially documented by Olsen (1957) and Olsen and Riddell (1960). Initial observations had described a 50- by 100-foot area with dark compacted midden (habitation soil) containing a bone awl. A mano and stone bowl mortar fragment had been documented in 1960. Records indicate that the site was extensively vandalized and eroded by the Feather River. A lack of surface evidence and negative results of auger probes led the Far Western Anthropological investigators to conclude that the cultural material no longer exists. No new resources were observed (Bouey 1990).

Evaluation of RD 784 and neighboring RD 1001 was conducted by JRP Historical Consulting Services in 1994 (JRP Historical Consulting Services 1994). While RD 784 is historic, none of the reclamation-related features were recommended as eligible for listing in the NRHP, individually or as a system, because of a lack of integrity to the period of significance.

Nelson et al. (2000) surveyed a narrow utility corridor along the Western Pacific Railroad line that crosses project Segment 3 immediately south of Marysville. This linear survey did not identify any prehistoric or historic-era sites, features, or artifacts.

In 2002, archaeologists with Jones & Stokes inventoried a large portion of what is now the FRLRP project area at a reconnaissance level (50-meter [164-foot] parallel transects) as part of the Y-FSFCP effort. More intense (25-meter [82-foot]) parallel transects were used for a small portion of the project area consisting of approximately 1 mile of the Feather River levee north of Ella Road (project Segment 2) and adjacent orchards to the east. Site CA-Yub-5 was relocated. The archaeologists noted that a 4-foot-high mound is present on the site. No artifacts were observed on the surface, but a foot-thick midden layer and fire-cracked rock were observed in a cut bank on the western edge of the site, overlain by 1–3 feet of sand. Disturbances consisted of a dirt road along the western edge of the site, a barn, and a walnut orchard currently located on-site. An additional seven historic resources were identified within project Segments 1 and 2 during this investigation:

- ▶ RD 784 Pump Station No. 2 (C-YCWA-8) (Segment 1): A structure built as early as 1952 supporting a pumping facility that has been subsequently and recently modified.
- ▶ Clark Slough (C-YCWA-1) (Segment 1): An earthen ditch in the RD 784 irrigation and drainage system that extends approximately 2.5 miles between Pump Station No. 2 and Lateral 5.

- ▶ Feather River levee (C-YCWA-3) (Segments 1 and 2): A 25-foot-high earthen berm along the east side of the Feather River with a 14- to 16-foot-wide road along the 20-foot-wide crown.
- ▶ Barn (C-YCWA-4) (Segment 2): A wood frame structure built sometime in the early 1920s. In 1997, floodwaters lifted the barn off its foundation and twisted the structure into its current dilapidated condition.
- ▶ House and barn (C-YCWA-5) (Segment 2): A single-story house with a concrete slab foundation and concrete masonry unit walls and a carport at the south end of the building, and a two/three-story rectangular structure located north of the house.
- ▶ Migrant worker camp (C-YCWA-6) (Segment 2): The remains of a migrant worker camp that apparently consisted of two large bunkhouses, a bathhouse, and a fourth building that may have been a mess hall.
- ▶ Messick Lake Ditch/Lateral 6 (C-YCWA-7) (Segment 2): An earthen ditch that extends northwest and south from Messick Lake, crossing Anderson Avenue via corrugated steel pipe.

Jones & Stokes (2003) noted that the RD 784 irrigation features and the Feather River levee do not represent unique examples of reclamation technology and do not retain integrity to the period in which they achieved significance, having been modified over time. The other features were found to lack distinctive characteristics that would potentially qualify them for NRHP or CRHR listing. Therefore, these resources were considered not to be eligible for NRHP or CRHR listing.

Jensen (2005) surveyed an area immediately southwest of the southwest corner of the Yuba County Airport, bordered on the east by the abandoned Sacramento Northern Railroad line and on the west by the river side of the left (east) bank levee of the Feather River in project Segments 2 and 3. This survey encompassed the northernmost portion of project Segment 2. This survey did not identify any prehistoric or historic-era sites, features, or artifacts.

Resources Previously Identified at Sites Near the Project Area

First documented in 1953 (Elsasser 1953) and later updated in 1960 by Riddell, site CA-Yub-6 was recorded approximately 1/2 mile east of project Segment 2 near Feather River Boulevard. In 1953, the site was described as a low rise covered with darker soil than the surrounding area. Several burials were removed from this locale when they were exposed during excavations for a fuel storage tank. Riddell (1960) indicated that this is the location of a large village and cemetery measuring approximately 100 meters (328 feet) in diameter.

A study by Stoll and Thompson (1961) within the Bear River drainage identified two sites, CA-Yub-1312 and CA-Yub-1313, southeast of what is now the FRLRP project area:

- ▶ *Site CA-Yub-1312.* Located near the confluence of the Feather and Bear Rivers, this site was described as a leveled habitation site consisting of a midden covering an area of 200 meters by 125 meters (656 feet by 410 feet) within a sugar beet field. Associated constituents

included a pestle, a projectile point, a bone fragment, and a hammerstone. Fragments of human bone were also found at the site.

- ▶ *Site CA-Yub-1313*. Located just north of the Bear River near State Route 70 (approximately 2 miles east of the present project area), this site was described as consisting of scattered midden material, an obsidian projectile point, shell, bone, basalt and obsidian flakes, and what appeared to be a pestle fragment.

CA-Yub-14, also known as the Rio Oso Site, is situated west of the left bank Feather River levee near project Segment 1. It was first documented in 1957 when a subsurface archaeological deposit with human remains was discovered by construction workers during borrow excavations for construction along the levee. Olsen (1957) observed a 200-foot by 300-foot area with dark sandy midden, and reported the discovery of projectile points, shell ornaments, Olivella beads, a bone awl and a fish hook. “Many” burials were discovered, although no further details were offered. Vandals further damaged the site before salvage excavations could take place. Olsen and Riddell (1962) conducted salvage excavation at the site and identified a midden deposit approximately 14–16 inches below the surface and extending to a depth of 48–60 inches. A total of 42 burials were removed from this site. The investigators noted that the vast majority of the burials located at the site had been disturbed either by construction or by subsequent vandalism. Despite these site disturbances, burial positions and placement and the wealth of culturally and temporally diagnostic materials indicate that the site was heavily utilized during the Late Archaic Period.

Peak & Associates (1988) conducted an intensive survey for three effluent disposal ponds on a 30-acre parcel located approximately 100–200 feet south of the Yuba River and immediately adjacent to the Southern Pacific railroad line. No prehistoric or historic-era resources were documented within the project area, but an abandoned spur (NCIC site number PA-88-75) associated with the railroad was recorded in the immediate vicinity.

Offerman (1992) surveyed a 13.8-acre site at the location of the present-day Caltrans maintenance area located at 981 North Beale Road in Marysville, immediately east of SR 70. This site is approximately 0.25 mile south of the portion of the left (south) bank Yuba River levee that is located in project Segment 3. Another survey of this site was conducted by Offerman (2001). Neither of these intensive surveys identified any prehistoric or historic-era sites, features, or artifacts.

NCIC File No. 939 (U.S. Army Corps of Engineers 1993) is a record of a survey that was conducted for a levee project in the U.S. Army Corps of Engineers’ Marysville–Yuba City Mitigation Area, west of the left bank Feather River levee at Country Club Avenue, near project Segment 2. Historic glass and ceramics discovered adjacent to the levee near Segment 2 were determined to lack integrity and were therefore determined to be ineligible for listing in the NRHP or the CRHR.

As part of the archaeological inventory performed for the Y-FSFCP, Jones & Stokes (2003) surveyed the left (east) bank Feather River levee and adjacent land within approximately 2,000 feet to the east. The survey extended south of FRLRP Segment 1. Jones & Stokes archaeologists

confirmed the location of CA-Yub-1312 and noted the presence of an obsidian flake, a cobble tool, a faunal bone fragment, fire-affected rock, and freshwater mussel shell.

Subsurface testing was subsequently conducted by Jones & Stokes (2005) at this site and the suspected site of CA-Yub-1313 as part of the Feather-Bear Rivers Levee Setback Project (F-BRLSP). Archaeological deposits and human remains were found to be present at CA-Yub-1312; however, the deposits were highly disturbed, lacking both horizontal and vertical integrity, and the resources were determined to be not eligible for listing in the NRHP. Test excavations at CA-Yub-1313 concentrated on areas suspected to contain the remains of the site, based upon the site documents and information supplied by local residents. No evidence of the site was discovered during test excavations.

In 2005, during setback levee construction along the lower Bear River as part of the F-BRLSP, additional archaeological deposits were uncovered at site CA-Yub-1312, and previously undocumented human remains and archaeological materials were uncovered at the site of CA-Yub-1313. Subsequent investigations concluded that those related to CA-Yub-1312 represent redeposited midden soils graded by agricultural activities, probably in the mid to late 20th century. Test excavations at CA-Yub-1313 revealed the presence of a highly disturbed deposit. Because of the redeposited and highly disturbed nature of the archaeological deposits, neither site was recommended as eligible for inclusion in the NRHP (EDAW 2006).

Storm (n.d.) conducted an inventory for a drainage project in West Linda, directly east of the left bank Feather River levee near project Segment 3. While not noting any resources within the project area, Storm did note the presence of CA-Yub-164, a prehistoric occupation site, approximately 1 mile east of the project area.

Results of Current Investigations within the Project Area

On May 11, 15, 18, and 25, 2006, EDAW archaeologist Richard Deis conducted a pedestrian survey of corridors along the proposed ASB and intermediate setback levee alignments and the portion of the existing Feather River levee in project Segment 3 that was not covered in the previous survey efforts (EDAW 2006b). Approximately 2.0 miles of the proposed ASB setback levee alignment (Alternative 2) and 1.0 mile of the proposed intermediate setback levee alignment (Alternative 3) could not be inventoried because access to these areas was not available. In addition, approximately 1/2 mile of the ASB setback levee alignment and 3/4 mile of the intermediate setback levee alignment could not be inventoried because of dense grass that obscured 100% of the ground surface. For those areas that could be adequately inventoried, surface visibility averaged more than 30% and was limited by grasses. The 2006 survey did not include areas between the existing Feather River levee and the setback levees proposed under Alternatives 2 and 3 or areas that may be used for borrow materials and equipment staging. Figures 5.8-1a and 5.8-1b depict the areas surveyed. (Although the coverage area of the 2006 survey was limited, additional areas with the potential to be affected by project construction activities or flood control operations would be surveyed for cultural resources before initiation of project construction, as described in mitigation measures below.)

As described above, a total of nine previously identified resources have been identified within or directly adjacent to the project area (CA-Yub-13, C-YCWA-1, and C-YCWA-8 in or adjacent to

project Segment 1, and CA-Yub-5, C-YCWA-3, C-YCWA-4, C-YCWA-5, C-YCWA-6, and C-YCWA-7 in project Segment 2). In addition, CA-Yub-14 is near Segment 1 to the west. With the exception of CA-Yub-14, C-YCWA-5, and C-YCWA-6, to which access was not available, the EDAW archaeologist located all of the previously identified resources. Surface observations at the previously identified locale for CA-Yub-13, however, did not identify any cultural resource remains at this site. A detail map of CA-Yub-5 was completed; no further disturbances of this site, beyond those noted by Jones & Stokes (2003), were observed.

A single isolated find in Segment 2 and a new site, FR1 in Segment 3, were documented during this field investigation. The isolated find, consisting of a fragmented piece of sun-colored amethyst glass, was observed within the proposed intermediate setback levee alignment. This fragment is chipped along all of the margins and is eroded, indicating that it has been transported by fluvial processes, possibly during one or more of the historic flooding episodes. While this type of glass was in use from ca. 1880 to the late 1910s, it lacks association and further data potential.

Site FR1 consists of the remains of an irrigation/pump location situated along the west side of the left bank levee of the Feather River. Constituents consist of a head gate, concrete foundations/footings, an excavated pit, and a section of riveted steel pipe. Most likely these are the remains of a component of RD 784. The remains have been completely dismantled and scattered, which has compromised the integrity of the features.

A residential complex was also observed at 716 Murphy Road, southwest of the Yuba County Airport in the northern part of project Segment 2. This property contains various buildings and structures, none of which are more than 45 years of age.

Summary of Cultural Resources in the Project Area

Table 5.8-2, "Summary of Cultural Resources in the Project Area," presents a list of previously identified and newly identified resources in and adjacent to the FRLRP project area, along with the NRHP and CRHR eligibility status of each resource.

5.8.3 ENVIRONMENTAL IMPACTS

THRESHOLDS OF SIGNIFICANCE

Thresholds for determining the significance of impacts on cultural resources were based on the environmental checklist form in Appendix G of the State CEQA Guidelines. A project alternative would have a significant impact on cultural resources if it would:

- ▶ cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the State CEQA Guidelines;
- ▶ cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines; or
- ▶ disturb any human remains, including those interred outside formal cemeteries.

**Table 5.8-2
Summary of Cultural Resources in the Project Area**

Project Segment	Site	Association	Description	Reference	Location – USGS Olivehurst Quad.			NRHP/CRHR Status
					T.	R.	Sec.	
Previously Identified Resources								
1	CA-Yub-13	Prehistoric	Village? (immediately west of Feather River levee)	Bouey 1990	13N	4E	6	Unevaluated
1	CA-Yub-14	Prehistoric	Village/burials outside (just west of) project area	Olsen 1957	13N	3E	6	Unevaluated
1	C-YCWA-1	Historic	Canal	Jones & Stokes 2003	13N	4E	13	Not eligible
1	C-YCWA-8	Historic	Pump station	Jones & Stokes 2003	13N	4E	25	Not eligible
2	CA-Yub-5	Prehistoric	Village/burials	Elsasser and Baumhoff 1953	13N	4E	25	Potentially eligible
1 and 2	C-YCWA-3	Historic	Levee	Jones & Stokes 2003	13N	4E	13	Not eligible
2	C-YCWA-4	Historic	Barn	Jones & Stokes 2003	13N	4E	25	Not eligible
2	C-YCWA-5	Historic	House and barn	Jones & Stokes 2003	13N	4E	24	Not eligible
2	C-YCWA-6	Historic	Work camp	Jones & Stokes 2003	13N	4E	24	Not eligible
2	C-YCWA-7	Historic	Canal	Jones & Stokes 2003	13N	4E	25	Not eligible
Newly Identified Resources								
2	Isolate 1	Historic	Glass fragment	EDAW 2006b	13N	4E	NA	Not eligible
3	FR1	Historic	Flood control features	EDAW 2006b	13N	4E	NA	Not eligible

Note: CRHR = California Register of Historical Resources; E = East; N = North; NA = Not available; NRHP = National Register of Historic Places; R = Range; Sec. = Section; T = Township; USGS = U.S. Geological Survey
Source: Data compiled by EDAW in 2006

A substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired. Actions that would materially impair the significance of a historical resource are any actions that would demolish or adversely alter those physical characteristics of a historical resource that convey its significance and qualify it for inclusion in the CRHR or in a local register or survey that meets the requirements of Public Resources Code Sections 5020.1(k) and 5024.1(g).

IMPACT ANALYSIS

Analysis Method

The impacts of the project alternatives were considered with regard to the thresholds listed above. For each alternative, the analysis considered impacts on cultural resources that could result from ground-disturbing construction activities, such as the preparation and use of staging areas and access roads; excavation operations; and levee repairs and strengthening or setback levee construction. The analysis for Alternatives 2 and 3 also considered indirect impacts such as erosion or flood damage that could be caused by intermittent inundation associated with flood operations with the proposed setback levee.

Alternative 1 – The Levee Strengthening Alternative

Impact
LS-5.8-a

Damage to or Destruction of Resources Associated with Prehistoric Archaeological Sites CA-Yub-13 and CA-Yub-14. Prehistoric site CA-Yub-13 was previously documented adjacent to the water side of the levee in project Segment 1, and prehistoric site CA-Yub-14 was documented just west of Segment 1. The eligibility of these resources for CRHR and NRHP listing has not been determined. Prehistoric remains that may be considered significant resources under CEQA may still be present near the documented locations of these sites and could be damaged or destroyed by proposed levee repair and strengthening activities. This impact would be **potentially significant**.

Prehistoric archaeological site CA-Yub-13 was previously documented at the northern end of project Segment 1, just south of Star Bend and adjacent to the water side of the levee. Compacted midden and artifact fragments were documented in 1957 and 1960 (Bouey 1990). Records indicate that the site was extensively vandalized, has been eroded by the Feather River, and had been affected by pump station construction. Bouey (1990) suggested that the site may no longer contain cultural resource materials. EDAW did not find any archaeological traces at the site during surveys conducted for the current effort. Nevertheless, it is possible that the project area may contain subsurface archaeological remains associated with CA-Yub-13 that could be considered significant resources under CEQA and that ground-disturbing project activities in the vicinity of the recorded location of CA-Yub-13 may damage or destroy such resources.

Site CA-Yub-14 was documented west of the left bank Feather River levee near project Segment 1 (in what is now the Lake of the Woods Unit of the Feather River State Wildlife Area). Numerous artifacts and “many” burials were reported by Olsen (1957). The site was subsequently vandalized. Salvage excavations (Olsen and Riddell 1962) recovered numerous burials and culturally and temporally diagnostic materials from this site, which provided evidence of prehistoric use. During the 2006 EDAW survey, the property where CA-Yub-14 was recorded could not be accessed. Consequently, the present-day condition and location of this site could not be assessed or confirmed. It is unknown whether any significant archaeological remains are still present at the site, and the recorded location of the site indicates that it may be sufficiently distant from the project area to preclude disturbance of any remaining cultural materials there by FRLRP activities. Nevertheless, it is possible that the project area may contain subsurface archaeological remains associated with CA-Yub-14 that could be considered significant resources and that ground-disturbing project activities in the vicinity of the recorded location of CA-Yub-14 may damage or destroy such resources.

Because it is possible that these sites, or elements of the sites, are eligible for NRHP or CRHR listing and may be considered significant resources under CEQA, any disturbance or destruction of resources associated with the sites may constitute a significant impact. Levee repair and strengthening activities could damage or destroy prehistoric remains that might be present at either of these locations. Therefore, this impact would be potentially significant.

Impact
LS-5.8-b

Damage to or Destruction of Cultural Resources in Unsurveyed Areas. Potential borrow or staging areas have not been definitively identified and therefore have not been surveyed for cultural resources. Significant cultural resources could be present in these areas, and could be damaged by project-related ground-disturbing activities. This impact would be **potentially significant**.

The cultural resources survey did not include areas that may be used for borrow materials and equipment staging, which will be defined during area project design. Undocumented and potentially significant cultural resources may be present in these areas and could be damaged by project-related ground-disturbing activities. Therefore, this impact would be potentially significant.

Impact
LS-5.8-c

Damage to or Destruction of Undocumented Buried Archaeological Resources during Construction. Project construction and related activities could damage or destroy previously unknown significant or potentially significant buried archaeological resources. This impact would be **potentially significant**.

Previously unidentified buried archaeological resources could be encountered during ground-disturbing activities, such as site preparation, grading, and excavation, in any of the project segments or at a soil borrow/detention basin site. Archaeological resources so encountered during construction could be damaged or destroyed. If any such resources are considered significant cultural resources, their damage or destruction would be considered significant. This impact would be potentially significant.

Impact
LS-5.8-d

Damage to or Destruction of Undocumented Human Remains during Construction. It is possible that buried human remains could be unearthed during project-related ground-disturbing activities, causing damage to or destruction of such remains. This impact would be **potentially significant**.

It is possible that undiscovered buried human remains could be unearthed and damaged or destroyed during ground-disturbing activities, such as access road preparation, grading, excavation, and preparation and use of construction staging areas. Damage to or destruction of human remains during project construction or other project-related activities would be a significant impact. Because there is the potential for such damage to occur, this impact would be potentially significant.

Alternative 2 – The Levee Strengthening and ASB Setback Levee Alternative

Impact ASB-5.8-a

Damage to or Destruction of Prehistoric Archaeological Site CA-Yub-5. Prehistoric archaeological site CA-Yub-5, which may be eligible for listing in the CRHR and NRHP, could be damaged or destroyed by construction activities or by inundation or scouring when flood flows pass through the levee setback area. Because this site may be a significant cultural resource, this impact would be **potentially significant**.

Archaeological site CA-Yub-5, a prehistoric village site, is located within the proposed setback levee alignment in project Segment 2, in an area where the alignments for the proposed ASB setback levee (Alternative 2) and the intermediate setback levee (Alternative 3) coincide. Native American burials and associated grave goods were removed from a portion of the site in the 1950s. A 4-foot-tall mound still exists at the site, and a thick midden layer is visible in a cut bank on one side of the site (Jones & Stokes 2003). Because little documentation of the previous excavations exists and the site retains the appearance of a prehistoric burial mound, it is considered possible that unrecovered prehistoric Native American burials or associated artifacts remain at the site. There is a lack of published information on the prehistory of Yuba County, particularly in the floodplain of the Feather River. CA-Yub-5 has previously yielded artifacts of importance to the understanding of regional prehistory, and has a high potential to yield more scientifically consequential information to supplement the little that is known. Therefore, it appears that CA-Yub-5 may be eligible for listing in the CRHR and the NRHP and therefore may be considered a historical resource (i.e., a significant cultural resource) for purposes of CEQA.

Because the site is within the proposed setback levee alignment, it could be damaged or destroyed by construction activities, such as grading, excavation, and transport of materials using heavy equipment. Flooding of the levee setback area by high Feather River flows following construction of the setback levee could also result in inundation or scouring that could damage or destroy site CA-Yub-5. Damage to or destruction of an archaeological site that is a historical resource would be a significant impact. Because the site represents a potentially significant resource that could be damaged by construction or operation of the project, this impact would be potentially significant.

Impact ASB-5.8-b

Damage to or Destruction of Resources Associated with Prehistoric Archaeological Sites CA-Yub-13 and CA-Yub-14. This impact would be the same as Impact LS-5.8-a, described under Alternative 1 above. For the same reasons as described above, this impact would be **potentially significant**.

Impact ASB-5.8-c

Damage to or Destruction of Cultural Resources in Unsurveyed Areas. Portions of the project area could not be surveyed for cultural resources because of ground conditions and lack of site access, and potential borrow or staging areas also have not been surveyed. Significant cultural resources could be present in these areas, and could be damaged by project-related ground-disturbing activities. This impact would be **potentially significant**.

Approximately 2.0 miles of the ASB setback levee alignment could not be inventoried because access to this area was not available. In addition, approximately 1/2 mile of the ASB setback levee alignment could not be inventoried because of dense grass that obscured 100% of the ground surface. For those areas that could be adequately inventoried, surface visibility averaged more than 30% and was limited by grasses. The survey also did not include areas between the

existing Feather River levee and the proposed ASB setback levee alignment or areas that may be used for borrow materials and equipment staging. Undocumented and potentially significant cultural resources may be present in these areas and could be damaged by project-related ground-disturbing activities. Therefore, this impact would be potentially significant.

**Impact
ASB-5.8-d**

Damage to or Destruction of Undocumented Buried Archaeological Resources during Construction. This impact would be similar to Impact LS-5.8-c, described under Alternative 1 above. In addition, ground-disturbing activities associated with the proposed levee setback in project Segment 2, such as construction of the slurry cutoff wall and the setback levee foundation, have the potential to damage or destroy previously unidentified archaeological resources in the setback levee construction area. For the same reasons as described for Alternative 1, this impact would be **potentially significant**.

**Impact
ASB-5.8-e**

Damage to or Destruction of Undocumented Human Remains during Construction. This impact would be similar to Impact LS-5.8-d, described under Alternative 1 above. In addition, ground-disturbing activities associated with the proposed levee setback in project Segment 2, such as construction of the slurry cutoff wall and the setback levee foundation, have the potential to damage or destroy undocumented human remains in the setback levee construction area. For the same reasons as described for Alternative 1, this impact would be **potentially significant**.

Alternative 3 – The Levee Strengthening and Intermediate Setback Levee Alternative

**Impact
IS-5.8-a**

Damage to or Destruction of Prehistoric Archaeological Site CA-Yub-5. This impact would be the same as Impact ASB-5.8-a, described under Alternative 2 above. For the same reasons as described above, this impact would be **potentially significant**.

**Impact
IS-5.8-b**

Damage to or Destruction of Resources Associated with Prehistoric Archaeological Sites CA-Yub-13 and CA-Yub-14. This impact would be the same as Impact LS-5.8-a, described under Alternative 1 above. For the same reasons as described above, this impact would be **potentially significant**.

**Impact
IS-5.8-c**

Damage to or Destruction of Cultural Resources in Unsurveyed Areas. Portions of the project area could not be surveyed for cultural resources because of ground conditions and lack of access, and potential borrow or staging areas also have not been surveyed. Significant cultural resources could be present in these areas, and could be damaged by project-related ground-disturbing activities. This impact would be **potentially significant**.

Approximately 1.0 mile of the intermediate setback levee alignment could not be inventoried because access to this area was not available. In addition, approximately 3/4 mile of the intermediate setback levee alignment could not be inventoried because of dense grass that obscured 100% of the ground surface. For those areas that could be adequately inventoried, surface visibility averaged more than 30% and was limited by grasses. The survey also did not include areas between the existing levee and the proposed intermediate setback levee alignment or areas that may be used for borrow materials and equipment staging. Undocumented and potentially significant cultural resources may be present in these areas and could be damaged by project-related ground-disturbing activities. Therefore, this impact would be potentially significant.

Impact
IS-5.8-d

Damage to or Destruction of Undocumented Buried Archaeological Resources during Construction. This impact would be the same as Impact ASB-5.8-d, described under Alternative 2 above. For the same reasons as described above, this impact would be **potentially significant**.

Impact
IS-5.8-e

Damage to or Destruction of Undocumented Human Remains during Construction. This impact would be the same as Impact ASB-5.8-e, described under Alternative 2 above. For the same reasons as described above, this impact would be **potentially significant**.

5.8.4 MITIGATION MEASURES

Alternative 1 – The Levee Strengthening Alternative

Mitigation is provided below for Impact LS-5.8-a (damage to or destruction of resources associated with sites CA-Yub-13 and CA-Yub-14), Impact LS-5.8-b (damage to or destruction of cultural resources in unsurveyed areas), Impact LS-5.8-c (damage to or destruction of undocumented buried archaeological resources), and Impact LS-5.8-d (damage to or destruction of undocumented human remains).

LS-5.8-a(1) Conduct Further Evaluation and Subsurface Testing to Determine Whether Proposed Levee Improvements Could Damage Significant Resources Associated with Prehistoric Archaeological Sites CA-Yub-13 and CA-Yub-14. This mitigation, together with Mitigation Measure LS-5.8-a(2), would reduce the potential impact to a less-than-significant level.

If levee improvements would include activities that could disturb subsurface soils in the vicinity (within 1,000 feet) of the recorded location of either CA-Yub-13 or CA-Yub-14, TRRIA shall have a qualified archaeologist conduct an evaluation designed to assess the potential for damage to resources associated with the site(s) before initiation of project-related ground-disturbing activities in these areas. The evaluation may require assessment of the condition and data potential of specific areas of anticipated construction disturbance and/or determination of whether one or both of the sites are eligible for inclusion in the CRHR and/or NRHP. This evaluation shall include additional surveys, subsurface test excavations, analyses of any discovered archaeological materials, and (if necessary) data recovery.

If the testing indicates the presence of cultural resources, a qualified archaeologist shall evaluate the significance of the finds and shall recommend further mitigation measures. Because of the critical need to remedy weaknesses in the existing levee in Segment 1, it is unlikely that avoidance of any resources directly within the construction footprint would be possible, and data recovery would likely be required. Efforts involving testing, excavation, and monitoring shall be conducted in consultation with appropriate Native American representatives identified by the NAHC.

LS-5.8-a(2) Monitor Ground-Disturbing Activities in the Vicinity of Prehistoric Archaeological Sites CA-Yub-13 and CA-Yub-14. This mitigation, together

with Mitigation Measure LS-5.8-a(1), would reduce the potential impact to a less-than-significant level.

A qualified professional archaeologist and a Native American representative shall monitor all project-related ground-disturbing activities at and near the locations of prehistoric archaeological sites CA-Yub-13 and CA-Yub-14. If intact archaeological materials or human burials not recovered during the subsurface testing and excavation programs described in Mitigation Measure LS-5.8-a(1) are uncovered during project-related ground-disturbing activities, the archaeologist shall determine their possible significance and shall formulate appropriate mitigation measures. Appropriate mitigation may include no action, avoidance of the resource, and potential additional data and burial recovery.

Implementing Mitigation Measures LS-5.8-a(1) and LS-5.8-a(2) together would ensure that any significant cultural remains associated with sites CA-Yub-13 and CA-Yub-14 are appropriately addressed, and would reduce the potential impact to a less-than-significant level.

LS-5.8-b Survey Unexamined Areas before Project Ground-Disturbing Activities and Implement Further Mitigation As Necessary. This mitigation would reduce the potential impact to a less-than-significant level.

A qualified professional archaeologist shall conduct focused surveys of all portions of the project area that were not adequately surveyed during past efforts or during surveys for the current effort. The survey shall be conducted before activities associated with project preparation or construction are initiated, and during a fallow period, if possible, in the case of areas currently covered in agricultural crops or grasses. If cultural resources are identified as a result of the survey, the archaeologist shall evaluate the significance of the finds and recommend appropriate mitigation measures for significant resources. TRLIA and its construction contractors shall implement these mitigation measures.

Mitigation may include, but shall not necessarily be limited to, the avoidance of significant and potentially significant resources through changes in project design and/or subsurface testing and data recovery. Such efforts, particularly those involving testing and excavation, shall be conducted in consultation with appropriate Native American representatives identified by the NAHC.

Implementing this mitigation measure would ensure that impacts on unknown cultural resources in previously unsurveyed portions of the project area are prevented or mitigated, and would reduce the potential impact to a less-than-significant level.

LS-5.8-c Stop Work and Implement Measures to Protect Archaeological Resources If Discovered during Ground-Disturbing Activities. This mitigation would reduce the potential impact to a less-than-significant level.

If previously undocumented archaeological materials such as historic building or structure remains; historic artifact deposits or scatters; or prehistoric artifacts such as stone tool flaking debitage, mortars, pestles, shell, or bone are encountered during project construction, all ground-disturbing activity shall be suspended temporarily within a 100-foot radius of the find or a distance determined by a qualified professional archaeologist to be appropriate based on the

potential for disturbance of additional resource-bearing soils. A qualified professional archaeologist shall identify the materials, determine their possible significance, and formulate appropriate mitigation measures. Appropriate mitigation may include no action, avoidance of the resource, and potential data recovery. Ground disturbance in the zone of suspended activity shall not recommence without authorization from the archaeologist.

Implementing this mitigation measure would ensure proper identification and treatment of any significant cultural resources uncovered as a result of project-related ground disturbance and would reduce the potential impact on unknown buried archaeological resources to a less-than-significant level.

LS-5.8-d If Human Remains Are Discovered during Ground-Disturbing Activities, Stop Work and Comply with State Laws Pertaining to the Discovery of Human Remains. This mitigation would reduce the potential impact to a less-than-significant level.

If human remains are uncovered during project construction, all ground-disturbing activities shall immediately be suspended within a 100-foot radius of the find or a distance determined by a qualified professional archaeologist to be appropriate based on the potential for disturbance of additional remains, and TRLIA or its designated representative shall be notified. TRLIA shall immediately notify the Yuba County Coroner and a qualified professional archaeologist, if one is not already on-site. The coroner shall examine the discovery within 48 hours. If the coroner determines that the remains are those of a Native American, he or she shall contact the NAHC by phone within 24 hours. The NAHC shall contact the Most Likely Descendant (MLD) of the remains. TRLIA or its appointed representative and the archaeologist shall consult with the MLD regarding the removal or preservation and avoidance of the remains, and the parties shall rebury or preserve the remains as appropriate. Ground disturbance in the zone of suspended activity shall not recommence without authorization from the archaeologist.

Implementing this mitigation measure would reduce impacts on discovered human remains to a less-than-significant level.

Alternative 2 – The Levee Strengthening and ASB Setback Levee Alternative

Mitigation is provided below for Impact ASB-5.8-a (damage to or destruction of site CA-Yub-5), Impact ASB-5.8-b (damage to or destruction of resources associated with sites CA-Yub-13 and CA-Yub-14), Impact ASB-5.8-c (damage to or destruction of cultural resources in unsurveyed areas), Impact ASB-5.8-d (damage to or destruction of undocumented buried archaeological resources), and Impact ASB-5.8-e (damage to or destruction of undocumented human remains).

ASB-5.8-a Evaluate the Significance of Archaeological Site CA-Yub-5 and, If Determined to Be Significant, Protect the Site from Damage and/or Conduct Data Recovery Excavation. This mitigation would reduce the impact to a less-than-significant level.

TRLIA shall have a qualified archaeologist evaluate the extent and significance/eligibility for NRHP and CRHR listing of site CA-Yub-5 through test excavations and analysis of the site's stratigraphy and artifactual constituents. If the site is determined to lack eligibility for NRHP and

CRHR listing and is not found to be a significant cultural resource under CEQA, the archaeologist shall report these findings in a site investigation report and ensure that all remains discovered at the site are recorded and reported in accordance with professional practices, and no further protective measures will be necessary.

If intact stratigraphy, features, additional human remains, or artifacts indicate that the site may be eligible for NRHP or CRHR listing and therefore a significant historical resource according to CEQA criteria, TRLIA shall implement one or both of the measures described below in consultation with a professional archaeologist familiar with CA-Yub-5 to ensure that no significant cultural resources are damaged there. Two basic approaches are described: protecting the site from damage and conducting data recovery at the site. All site testing shall be conducted in consultation with appropriate Native American representatives designated by the NAHC, and a Native American monitor shall be present for monitoring during any excavation.

Option 1: Protect CA-Yub-5 from Damage

CA-Yub-5 can be protected from direct construction damage if the setback levee is realigned such that the site is beyond the footprint of ground-disturbing levee construction activity. This would require moving the levee alignment to the east of the site boundaries, thus placing the entire site within the levee setback area. It would be highly impractical to move the alignment to the west to place the site outside the project site and thereby avoid damaging it. Based on characteristics observed during archaeological field surveys, it is estimated that the setback levee would need to be constructed approximately 500 feet west of the proposed alignment in the area of CA-Yub-5 to ensure complete avoidance of the site. Geotechnical considerations render such a western shift of the alignment unrealistic because it would place this portion of the levee on a far less stable foundation (old riverbed) than under the proposed alignment.

Once situated within the levee setback area (i.e., the expanded floodway), the site should be protected from future erosion and scour from surface flows, as well as human disturbance, through the use of engineered features and/or strategic plantings. In addition, sufficient site data should be collected and analyzed to establish the important archaeological characteristics of the site. One of the most potentially significant characteristics of CA-Yub-5 is the presence of at least 12 inches of midden soil, which can be a source of information regarding the age of the site (through radiocarbon dating) and prehistoric diets and paleoenvironmental reconstruction (through microconstituent and chemical analyses). Because floodwaters passing through the levee setback area could alter the soil properties that permit accurate radiometric dating or hasten the degradation of macrobotanical and microbotanical remains, scientific data would need to be collected, recorded, and reported before the site is subjected to inundation.

It has been previously suggested that the site may be protected from future damage by use of a protective covering that is impermeable to water, which is also termed “capping.” However, “capping” CA-Yub-5 to protect it from water damage would be very impractical, if not impossible. It would be necessary to have a clear definition of the horizontal and vertical boundaries of CA-Yub-5, and the site would need to be completely encased in the covering so that it would be protected from saturation from all sides, including rising groundwater from below.

Option 2: Conduct Data Recovery at CA-Yub-5

Data recovery through destructive excavation is considered an acceptable mitigation measure for damage to archaeological sites if other mitigation measures are less feasible or wholly infeasible. The purpose of data recovery is to obtain scientifically consequential information from an archaeological site that would be partially or completely destroyed. Although much of the work required for data recovery is similar to that conducted during test excavations, the requirements for data recovery call for more extensive manual and perhaps mechanical excavation. Recovered materials shall be subjected to laboratory analysis (e.g., stone tool analysis, faunal analysis, radiocarbon assays, and obsidian hydration studies), and a report and interpretive material shall be prepared that documents the site investigation and findings.

Implementing one or both of the mitigation options described above would ensure that project effects on any significant cultural resources at CA-Yub-5 would be reduced to a less-than-significant level.

ASB-5.8-b(1) Conduct Further Evaluation and Subsurface Testing to Determine Whether Proposed Levee Improvements Could Damage Significant Resources Associated with Prehistoric Archaeological Sites CA-Yub-13 and CA-Yub-14. This measure is identical to Mitigation Measure LS-5.8-a(1) above. Together with Mitigation Measure ASB-5.8-b(2), this mitigation would reduce the potential impact to a less-than-significant level.

ASB-5.8-b(2) Monitor Ground-Disturbing Activities in the Vicinity of Prehistoric Archaeological Sites CA-Yub-13 and CA-Yub-14. This measure is identical to Mitigation Measure LS-5.8-a(2) above. Together with Mitigation Measure ASB-5.8-b(1), this mitigation would reduce the potential impact to a less-than-significant level.

ASB-5.8-c Survey Unexamined Areas before Project Ground-Disturbing Activities and Implement Further Mitigation As Necessary. This measure is identical to Mitigation Measure LS-5.8-b above. This mitigation would reduce the potential impact to a less-than-significant level.

ASB-5.8-d Stop Work and Implement Measures to Protect Archaeological Resources If Discovered during Ground-Disturbing Activities. This measure is identical to Mitigation Measure LS-5.8-c above. This mitigation would reduce the potential impact to a less-than-significant level.

ASB-5.8-e If Human Remains are Discovered during Ground-Disturbing Activities, Stop Work and Comply with State Laws Pertaining to the Discovery of Human Remains. This measure is identical to Mitigation Measure LS-5.8-d above. This mitigation would reduce the potential impact to a less-than-significant level.

Alternative 3 – The Levee Strengthening and Intermediate Setback Levee Alternative

Mitigation is provided below for Impact IS-5.8-a (damage to or destruction of site CA-Yub-5), Impact IS-5.8-b (damage to or destruction of resources associated with sites CA-Yub-13 and CA-Yub-14), Impact IS-5.8-c (damage to or destruction of cultural resources in unsurveyed areas), Impact IS-5.8-d (damage to or destruction of undocumented buried archaeological resources), and Impact IS-5.8-e (damage to or destruction of undocumented human remains).

- IS-5.8-a Evaluate the Significance of Archaeological Site CA-Yub-5 and, If Determined to Be Significant, Protect the Site from Damage and/or Conduct Data Recovery Excavation.** This measure is identical to Mitigation Measure ASB-5.8-a above. This mitigation would reduce the impact to a less-than-significant level.
- IS-5.8-b(1) Conduct Further Evaluation and Subsurface Testing to Determine Whether Proposed Levee Improvements Could Damage Significant Resources Associated with Prehistoric Archaeological Sites CA-Yub-13 and CA-Yub-14.** This measure is identical to Mitigation Measure LS-5.8-a(1) above. Together with Mitigation Measure IS-5.8-b(2), this mitigation would reduce the potential impact to a less-than-significant level.
- IS-5.8-b(2) Monitor Ground-Disturbing Activities in the Vicinity of Archaeological Sites CA-Yub-13 and CA-Yub-14.** This measure is identical to Mitigation Measure LS-5.8-a(2) above. Together with Mitigation Measure IS-5.8-b(1), this mitigation would reduce the potential impact to a less-than-significant level.
- IS-5.8-c Survey Unexamined Areas before Project Ground-Disturbing Activities and Implement Further Mitigation As Necessary.** This measure is identical to Mitigation Measure LS-5.8-b above. This mitigation would reduce the potential impact to a less-than-significant level.
- IS-5.8-d Stop Work and Implement Measures to Protect Archaeological Resources If Discovered during Ground-Disturbing Activities.** This measure is identical to Mitigation Measure LS-5.8-c above. This mitigation would reduce the potential impact to a less-than-significant level.
- IS-5.8-e If Human Remains Are Discovered during Ground-Disturbing Activities, Stop Work and Comply with State Laws Pertaining to the Discovery of Human Remains.** This measure is identical to Mitigation Measure LS-5.8-d above. This mitigation would reduce the potential impact to a less-than-significant level.

5.8.5 IMPACTS REMAINING SIGNIFICANT AFTER MITIGATION

With implementation of the mitigation described above, all impacts on cultural resources would be reduced to a less-than-significant level.