

5.3 Cultural Resources

This section discusses the potential effects of the Turlock Irrigation District (TID) Almond 2 Power Plant (A2PP) on cultural resources. Section 5.3.1 describes the project. Section 5.3.2 describes the cultural resources environment that might be affected by the A2PP. Section 5.3.3 discusses the environmental effects of construction and operation of the proposed project. Section 5.3.4 discusses potential cumulative effects. Section 5.3.5 presents mitigation measures that will be implemented to avoid construction impacts (A2PP is not anticipated to require mitigation measures for cultural resources once operational). Section 5.3.6 discusses the laws, ordinances, regulations, and standards (LORS) applicable to the protection of cultural resources. Section 5.3.7 lists the agencies involved and agency contacts, and Section 5.3.8 discusses permits. Section 5.3.9 lists reference materials used in preparing this section.

This section is consistent with state regulatory requirements for cultural resources pursuant to the California Environmental Quality Act (CEQA). Cultural resources include prehistoric and historic archaeological sites;¹ districts and objects; standing historic structures, buildings, districts and objects; locations of important historic events, and sites of traditional/cultural importance to various groups.² The study scope was developed according to California Energy Commission's (CEC) cultural resources guidelines and complies with *Instructions to the California Energy Commission Staff for the Review of and Information Requirements for an Application for Certification* (CEC, 1992) and *Rules of Practice and Procedure & Power Plant Site Certification Regulations* (CEC, 2007). This study was conducted by Clint Helton, M.A., RPA and Natalie Lawson, M.A., RPA, Cultural Resource Specialists (CRS) who meet the qualifications for Principal Investigator stated in the Secretary of the Interior's standards and guidelines for archaeology and historic preservation (USNPS, 1983). Jessica Feldman, Secretary of Interior-qualified Architectural Historian, conducted all studies related to historic architecture for this project.

¹ Site is defined as "The location of a significant event, a prehistoric or historic occupation or activity, or a building or structure...where the location itself possesses historic, cultural, or archeological value." (U.S. National Park Service [USNPS]-IRD, 1991: 15).

² The federal definitions of cultural resource, historic property or historic resource, traditional use area, and sacred resources are reviewed below and are typically applied to non-federal projects.

A cultural resource may be defined as a phenomenon associated with prehistory, historical events, or individuals or extant cultural systems. These include archaeological sites, districts, and objects; standing historic structures, districts, and objects; locations of important historic events; and places, objects, and living or non-living things that are important to the practice and continuity of traditional cultures. Cultural resources may involve historic properties, traditional use areas, and sacred resource areas.

Historic property or historic resource means any prehistoric district, site building, structure, or object included in, or eligible for, inclusion in the National Register of Historic Places (NRHP). The definition also includes artifacts, records and remains that are related to such a district, site, building, structure or object.

Traditional use area refers to an area or landscape identified by a cultural group to be necessary for the perpetuation of the traditional culture. The concept can include areas for the collection of food and non-food resources, occupation sites and ceremonial and/or sacred areas.

Sacred resources applies to traditional sites, places or objects that Native American tribes or groups, or their members, perceive as having religious significance.

Per CEC Data Adequacy requirements, Appendix 5.3A provides copies of agency consultation letters. Appendix 5.3B provides the Cultural Resources Assessment Report. Appendix 5.3C provides archival research material, including copies of historic maps of the project and a complete copy of the California Historical Resources Information System (CHRIS) literature search results, which include copies of previous technical reports occurring within 0.25 mile of the project. Appendix 5.3D provides names and qualifications of personnel who contributed to this study. Appendix 5.3E provides maps of the project and previously conducted studies that occurred within one mile of the project. Appendixes 5.3C and 5.3E are being filed under a request for confidentiality. Appendix 5.3F contains photographs of built structures within the 0.5 mile architectural study area and considered not eligible for listing on the NRHP, as directed by CEC staff Beverly Bastian and Amanda Blosser on February 18, 2009.

The project does not require review under federal regulations such as the National Historic Preservation Act (NHPA) and the Archaeological and Historic Preservation Act of 1974 (16 U.S. Code 469), among others, because it is not a federal undertaking (federally permitted or funded).

5.3.1 Introduction

TID proposes to construct a simple-cycle, natural gas-fired power plant project in Ceres, Stanislaus County, California. The project will be located on a site immediately north of TID's existing Almond Power Plant. Although the plant is within the city of Ceres, the mailing address is 4500 Crows Landing Road, Modesto, California.

The project will consist of three 58- megawatt (MW) LM6000PG turbines with SPRINT, and the plant is expected to have a nominal output of 174 MW. The total area of the site boundary is approximately 4.6 acres. In addition to the installation of the three turbines and their corresponding equipment, additional linears will be constructed or modified. The A2PP will be interconnected to the TID system via two 115-kV transmission lines (Corridor 1, approximately 0.9 mile long, and Corridor 2, 1.2 miles long), which will extend south to the proposed Grayson Substation.³ TID will also reconductor an existing approximately 2.9-mile-long, 69-kV sub-transmission line. Natural gas will be provided via one of two routes: an approximately 9.1-mile-long pipeline that runs south along Crows Landing Road (Alternate A), or an approximately 11.1-mile-long pipeline that runs south along Carpenter Road (Alternate B).⁴ The new plant will tie into existing water supply and return lines from the City of Ceres Wastewater Treatment Plant (WWTP) already in use by the existing Almond Power Plant. Figure 1.1-3 identifies the location of the linears for this project. The A2PP area of potential effect (APE) referred to in this section includes the survey areas for both archaeological and architectural resources. The archaeological survey area includes the

³ The proposed Grayson Substation is a component of the TID Hughson-Grayson 115-kV Transmission Line and Substation Project. In addition to the substation, the Hughson-Grayson project consists of an approximately 10-mile-long, 115-kV transmission line; a 0.5-mile-long, 69-kV transmission line from the existing TID Almond Power Plant; and a second 69-kV transmission line that extends 0.8 mile east from the proposed substation. An environmental impact report for the Hughson-Grayson project (State Clearinghouse Number 2009012075) is currently being prepared. The Notice of Preparation was issued on January 26, 2009, and reissued February 10, 2009. The Draft Environmental Impact Report is anticipated to be issued in July 2009.

⁴ Pacific Gas & Electric Company (PG&E) is currently examining the relative strengths of the two alignments. In order to allow the AFC to proceed, the two possible alternatives are presented in this AFC with same level of detail to allow complete evaluation of both alternatives. TID anticipates that PG&E will select a preferred route in late spring or early summer 2009. At that time, the route not selected will provide information for the California Energy Commission's Alternatives analysis.

plant site, the proposed laydown area, all transmission line corridors, and both proposed natural gas pipeline corridors as well as the following buffer areas: 200 feet around the plant site and the laydown area, and 50 feet on either side of all project linears. The architectural survey area includes the plant site, the proposed laydown area, and all new transmission lines, as well as a one-half mile buffer around all of these locations.

5.3.2 Affected Environment

In central California, cultural resources extend back in time for at least 11,500 years. Written historical sources tell the story of the past 200 years. Archaeologists have reconstructed general trends of prehistory in central California.

Several chronologies have been proposed for central California archaeology. Generally, these chronologies are variations based on the general California chronology, which consists of an Early Horizon, a Middle Horizon, and a Late Horizon (Fredrickson, 1974; Elsasser, 1978). However, wide regional differences in central California, as well as significant temporal overlap between site types classified into these three horizons, prevented clear distinctions between horizons. Eventually, a model was proposed for central California that primarily emphasized the patterns of cultural identity and de-emphasized associated occupation dates (Moratto, 1984).

5.3.2.1 Regional Setting

The project site is located in Ceres, California, in Stanislaus County. The existing TID Almond Power Plant is south of the A2PP site, a WinCo distribution warehouse is to the west, a farm supply facility is north of the project site, and a modular building distributor and drilling equipment storage facility is to the east.

The two transmission line corridors run south from the project site for approximately 1 mile, while a 69-kV sub-transmission line, which will be reconductored, runs north through industrial buildings and near residences situated along Hatch Road. These lines are also located adjacent to the Union Pacific Railroad (UPRR), historically the Tidewater Southern Railroad (TSRR), and connect to the Crows Landing Substation.

Two alternate gas pipeline routes were analyzed for this project: Alternate A, which runs south from the A2PP plant site for approximately 9.1 miles along Crows Landing Road, adjacent to agricultural fields, rural residences, and farmhouses; and Alternate B, which runs east along the irrigation canal (TID Lateral 2) to Carpenter Road, and then turns south along Carpenter Road, and is approximately 11.1 miles long. Both proposed pipelines cross several historic laterals and one historic drain within the TID.

The A2PP plant site is situated on fill approximately 6.5 feet deep. The associated linears are situated within the Modesto Formation, which is commonly considered to be less than 10,000 years old. The overall A2PP APE is relatively flat.

5.3.2.1.1 Paleo-Indian Period (12,000 to 5,000 years ago)

The general trend throughout California prehistory has been an increase in population density over time, coupled with greater sedentism and the use of a greater diversity of food resources. There is abundant evidence that humans were present in the New World for at least the past 11,500 years. There is also fragmentary, but growing, evidence that humans

were present long before that date. Linguistic and genetic studies suggest that a date of 20,000 to 40,000 years ago for the human colonization of the New World may be possible. The evidence of this earlier occupation is not yet conclusive, but it is beginning to be accepted by archaeologists. The Meadowcroft Rockshelter in Pennsylvania and Monte Verde in Chile, for instance, are two early sites that have produced apparently reliable dates as early as 12,500 years before present. These earliest known remains indicate very small, mobile populations, apparently dependent on hunting of large game animals as the primary subsistence strategy.

The earliest sites in the San Joaquin Valley are Fluted Point Tradition and Western Pluvial Lakes Tradition sites found at Tracy, Tulare, and Buena Vista lakes. These sites are few in number and remain undated by scientific means but the assemblage types indicate probable ages of 11,500 to 7,500 years old (Moratto, 1984).

5.3.2.1.2 Windmill Pattern (5,000 to 3,000 years ago)

The Windmill Pattern generally coincides with Fredrickson's Early Horizon (1974) and the majority of the known Windmill Pattern sites date to approximately 5,000 to 2,250 years ago. A small number of Windmill sites date as late as 1,250 to 750 years ago. Windmill populations moved seasonally between the valleys in the winter and the Sierra Nevada foothills in the summer. Fishing and hunting were the primary subsistence strategies and Windmill sites are characterized by tools related to hunting and fishing, as well as milling, and include mortars, baked clay balls, trident fish spears, two types of angling hooks, pecan-sized baked clay that appear to have been used as fish line sinkers, bone awls and needles, polished charmstones, shell working and shell appliqué, and flaked tools, including projectile points (Moratto, 1984).

5.3.2.1.3 Berkeley Pattern (3,000 to 1,250 years ago)

The Berkeley Pattern coincides roughly with the Middle Horizon, and the majority of known Berkeley Pattern sites date to approximately 2,500 to 1,250 years ago. A small number of Berkeley sites extend outside of this timeframe and date as early as 3,200 years ago and as late as 500 years ago. In response to environmental technological factors, economies became more diversified, and sedentism developed further while population growth and expansion occurred. The Berkeley Pattern subsistence relied less on hunting and fishing than the Windmill Pattern; rather the focus appears to have been on acorns. Mortars and pestles are present in far greater numbers at Berkeley sites. Other artifacts characterizing Berkeley sites include greater numbers of bone tools of superior manufacture, distinctive diagonal flaking of large concave base points, shell beads and ornaments.

5.3.2.1.4 Augustine Pattern (1,250 to 250 years ago)

The Augustine Pattern coincides approximately with the Late Horizon and generally dates from 1,250 to 250 years ago. Augustine Pattern sites are much more widespread than Berkeley Pattern sites and are characterized by intensive fishing, hunting, and acorn gathering. Population densities are much higher; exchange systems are more sophisticated and include the advent of using clamshell disk beads for goods exchange. High variability in funerary artifacts seems to indicate more social stratification. Cremations and flexed burials are common. Artifacts associated with the Augustine Pattern include the bow and arrow, shaped mortars and pestles, and pottery in some parts of the central San Joaquin Valley (Moratto, 1984).

5.3.2.2 Ethnographic Setting

The A2PP APE was occupied ethnographically by the Yokuts (Kroeber, 1925; Wallace, 1978). The Yokuts are unique among Native Californians in that they were divided into true tribes. Each tribe had a unique name, a distinctly different dialect, and a defined territory (Kroeber, 1925). The Yokuts language is a member of the California Penutian stock that includes four other groups found in central California: Miwok, Costanoan, Maidu, and Wintuan. Yokuts were divided into three groups: the Southern Valley Yokuts, the Northern Valley Yokuts, and the Foothill Yokuts. Specifically, the A2PP APE is situated within the traditional lands of the Northern Valley Yokuts, of whom the least is known. The tribe, who lived in the vicinity of the A2PP APE, was the Yalesumne. The Yalesumne occupied the area between the Stanislaus and the Tuolumne Rivers closest to the San Joaquin River. The Northern Valley Yokuts rapidly disappeared once Europeans reached the area as a result of disease, missionization, and most significantly, the gold rush.

The San Joaquin River was the center of the Northern Yokuts territory and their settlement and subsistence were heavily reliant on the river and its sloughs. Villages were placed on low mounds, above the flood levels and near larger bodies of water. The structure of the Northern Yokuts village is unknown but assumed to be quite similar to the groups to the north and south of the Northern Yokuts and based on the single family (Wallace, 1978; 466). Members of a tribe lived in one principal settlement, periodically leaving the settlement during the spring floods to move to higher ground. The group would divide into smaller groups during different harvesting seasons, leaving a small group at the main settlement. Generally, the tribes stayed at the main settlement because food near the village was abundant. Fish, mussels, pond turtles, waterfowl, tule elk, pronghorn antelope, jackrabbits, squirrels, and quails were all found in abundance in and near the water. Salmon, in particular, is noted as a prime source of food in historical accounts of the Northern Yokuts. Acorns from valley oaks and tule roots were ground into a meal and cooked as a thick soup or gruel.

During the Spanish and Mexican Periods, 1769–1846, the Northern Yokuts rapidly declined in population. European disease swept through the San Joaquin Valley. In 1833, a particularly virulent malaria epidemic wiped out entire tribes. Decreasing native populations along the coast resulted in the Franciscan friars pulling neophytes from farther and farther inland. Many of the Northern Yokuts were taken to the San Jose, Santa Clara, Soledad, San Juan Bautista, and San Antonio missions. It is not clear if the neophytes willingly left the San Joaquin Valley (Wallace, 1978). During the Mexican Period, Northern Yokuts, who had been successfully stealing animals from the new ranches, clashed with ranchers. Finally, during the American Period, which began in 1846, the Northern Yokuts were further decimated by the thousands of prospectors who descended upon the San Joaquin Valley in search of gold (Wallace, 1978).

5.3.2.3 Historic Setting

In 1542, Juan Rodriguez Cabrillo explored the California coast by ship. Much of the early exploration of California was conducted this way and the interior of California, including the San Joaquin Valley, remained unexplored by Europeans until the beginning of the Spanish Period.

The Spanish period spans the years from 1769 to 1822 in California beginning with the founding of the first mission, the Mission San Diego de Alcala in 1769. It was not until March of 1772 that the first formal European expedition, led by Pedro Fages, entered the northern San Joaquin Valley. Fages went in search of the first Europeans to actually enter the San Joaquin Valley, Spanish deserters. The other purpose of the Fages expedition was to find an overland route to Point Reyes, and the company kept to the shoreline until they reached the mouth of the San Joaquin River and first observed the valley (Smith, 2004). Shortly after the Fages expedition returned to Monterey, Father Francisco Garcés entered the San Joaquin Valley and made the first scientific observations of the valley, which included native villages, wide rivers, large tule swamps, and huge herds of tule elk.

In 1821, Mexico gained independence from Spain and in 1848 the United States formally obtained California in the Treaty of Guadalupe Hidalgo (Cleland, 1941: xiii). The period from 1821–1848 is referred to as the Mexican Rancho Period. It was during this period that large tracts of land termed *ranchos* were granted by the various Mexican Governors of *Alta* California, usually to individuals who had worked in the service of the Mexican government. The *Rancho Orestimba*, which included approximately 26,000 acres, was located along the west side of the San Joaquin River and is the closest rancho to the A2PP. The area included present day Crows Landing and ran south into Merced County. The rancho was originally granted to Sebastian Nunez in 1846, who occupied the rancho for almost 20 years. In 1859, Nunez sold the majority of the original rancho to Count Cippriani (Smith, 2004).

In 1833, 11 years after gaining independence from Spain, the Mexican government's Secularization Act changed missions into civil parishes, and those natives who had inhabited regions adjacent to a Spanish Period mission were to obtain half of all mission possessions, including land. However, in most instances, this did not occur, and the Secularization Act resulted in the transfer of large mission tracts to politically prominent individuals.

Following the end of hostilities between Mexico and the United States in January of 1847, the United States officially obtained California from Mexico through the Treaty of Guadalupe Hidalgo on February 2, 1848 (Cleland, 1941: xiii). Thus, the American Period begins in 1848. In 1850, California was accepted into the Union of the United States primarily due to the population increase created by the Gold Rush of 1849. In April of 1848, gold was first discovered in the San Joaquin Valley at Captain Sutter's now famous saw mill near present day Sacramento. Gold was never found in great quantities in the San Joaquin Valley, although mining in the adjacent foothills was prolific. The southern mines stretched from the Mokelumne River to the Kern River and Stockton became the main supply city for miners headed to these southern mines (Smith, 2004: 179).

The cattle industry in California reached its greatest prosperity during the first years of the American Period. Mexican Period land grants had created large, pastoral estates in California, and a high demand for beef during the Gold Rush led to a cattle boom that lasted from 1849 to 1855. In 1855, however, the demand for California beef began to decline as a result of sheep imports from New Mexico, cattle imports from the Mississippi and Missouri valleys, and the development of stock breeding farms. When the beef market collapsed, the California ranchers were unprepared. Many had borrowed heavily during the boom, mortgaging their land at interest rates as high as ten percent per month. The collapse of the

cattle market meant that many of these ranchos were lost through foreclosure, while others were sold to pay debts and taxes (Cleland, 1941: 108-114).

A portion of the first transcontinental railroad crosses the San Joaquin Valley near the A2PP APE. This portion of the Central Pacific Railroad (CPRR) was constructed during the latter half of the 19th century. In other parts of the country, the railroad was given land grants for construction. Although no land grants were given to the CPRR in the San Joaquin Valley, the company financed itself and construction of the first railroad in San Joaquin Valley began in 1870 at a new railroad town named Lathrop. By the close of 1870, this line reached the Stanislaus River. The CPRR connected to the main Southern Pacific line at Goshen, approximately 150 miles south of Lathrop. Subsequently, other rail lines were constructed in the San Joaquin Valley and served as feeders to this main line. In 1903, the Western Pacific Railway incorporated and between 1905 and 1909 the company constructed a railroad that ran through the San Joaquin Valley and into the Sierra Nevada Mountains (Smith, 2004). The TSRR, which is located adjacent (approximately 5 meters) to the A2PP plant site and the 69-kV sub-transmission line to be reconducted, was incorporated in 1910 and started operations as an inter-urban electric railway with electrified lines and ran as far south as Modesto (Hohenthal et al., 1972).

During the American period, in addition to cattle and sheep ranches, a growing number of farms appeared. A rural community cultural pattern existed in the study area from approximately 1870 to 1930. This pattern consisted of communities made up of population aggregates that lived within well-defined geographic boundaries, shared common bonds, and cooperated to solve shared problems. They lived on farmsteads, tied together by a common school district, church, post office, and country store. These farmsteads and dispersed farming communities gave way to horse ranches, dairies, and nurseries, which in turn were replaced by the establishment of the roadside service complex. The roadside service industry thrived in the highly mobile, mechanized pre- and post-war society, which was linked by state and federal roadways.

5.3.2.4 The Modesto Area and the TID

The A2PP is proposed within the city of Ceres, but the plant has a Modesto address. Associated linears for this project are proposed near Ceres. These two cities were founded adjacent to the CPRR, near the end of the 19th century. Modesto, originally a planned railroad town, grew quickly, and was officially incorporated in 1884. Ceres was first settled in 1870 and by 1872, the CPRR stopped at Ceres. Originally, wheat was the main crop grown in the Modesto area. Over-cultivation near the end of the 19th century forced crop diversification in the area, and local farmers experimented with the cultivation of fruit and nut trees, which did not require a great deal of water (Napton, 1989).

The Central Valley is defined historically by agriculture and transportation. The area around Modesto and Ceres is no exception. In addition to the railroads, such as the Central Pacific and the Western Pacific, ferries serviced the area via several ferry landings on the Tuolumne and the San Joaquin rivers. The road that would eventually become State Route 99 was planned and permitted in the late 1800s, although the paved highway was not completed until 1968. As stated previously, Ceres was first settled in 1870 and by 1872, the CPRR stopped at Ceres. Wheat was planted on thousands of acres in the region. The settlement of Crows Landing was founded by J.B. Crow, one of the first wheat growers in the area. Crow

established a landing on the San Joaquin River to ship his wheat to market, and Crow and his two partners operated a ferry at that landing from 1870 until 1885 (Napton, 1991). Crow's Landing Road represents the original road that connected two ferries, the Davis and Maze's Ferry on the Tuolumne River and the Fairbank's Ferry on the San Joaquin River. This main road was established in 1870. Several small taverns were constructed along this main road and served as way stations (Brotherton, 1982).

Hot dry summers and over-cultivated lands made wheat growing less and less prosperous as the 19th century drew to a close. In 1887, the Wright Bill, a bill that proposed the creation of irrigation districts in California, passed the California Senate and Assembly and was signed into law by then Governor Washington Bartlett. Local irrigation districts, including the TID and the Modesto Irrigation District (MID), created water conveyance systems in the early 1900s and started the flow of water into the area. Farmers began to diversify their crops and experimented with fruit and nut trees that did not require as much water as wheat. The combined efforts of the TID and the MID resulted in the construction of the La Grange Dam in 1893. The promise of water and cheap land brought an influx of settlers into the area. Expanding rail lines and ferry service made travel into the region easier.

In 1900, the area was still a big grain-farming region. Irrigation, however, allowed the planting of orchards, vineyards, and row crops, which were better suited to farmers able to devote a few acres and put considerable effort into them rather than to the large grain fields planted and harvested by transient hired hands. Small farms meant more people, more towns, and more trade. This vision of irrigation propelled the local crusade for the Wright Act and became a part of the national reclamation movement for a federal irrigation program. In 1901, only 3,700 acres were irrigated by the TID in the northern part of the district. A scant two years later 10,000 acres were irrigated, and by 1908 TID provided water to almost 58,000 acres (Hohenthal et. al, 1971:207).

Settlers to the area, unless they bought property adjacent to the TID canals, faced the prospect of creating ditches that connected to the lateral canals of the TID. Farmers depended on the so-called community ditch system to connect their farms to the water supply. The community ditches, hundreds of miles of them, were built and maintained by the irrigators using them, generally without any formal organization. Once water reached a farm, it could be sent into crop fields in a number of ways. One was called "wild flooding," in which supply ditches running along the high ground were temporarily dammed to divert small streams into field ditches dug down the slopes. These smaller ditches were plugged at intervals to force water out onto the field, letting the water flood down the hill without restraint. Another method, furrow irrigation, sent a small head of water through the rows of crops or orchards. The check method of flooding and its variants divided the land into a series of level basins or checks that were surrounded by levees. A large flow of water was turned into each check until the area was just covered by water. By the time irrigation reached the TID area, the standard practice was to create checks of up to one acre (Paterson, 1989: 123).

The TID system began a revolution in the region's agriculture. The system formed the basis for new industries and caused the reduction in the size of landholdings as the large ranches of the late 1800s were broken into small parcels with dairies, orchards, and row crops. New towns were founded and wheat was replaced by melons, grapes, and peaches. New settlers in the area first planted alfalfa, raised a few dairy cows, and sold cream to the nearest

creamery. Others raised poultry. Both practices readily raised needed cash. In the first few years of irrigation in the TID, alfalfa was the main crop. It grew readily, could usually be cut twice in its first year and would yield about four cuttings annually thereafter, thus producing approximately five to six tons of good quality hay per acre. Alfalfa acreage peaked in 1914 at approximately 72 percent of the acreage, or 68,000 acres, in the TID. It rapidly decreased in acreage, accounting for less than 31,000 acres in 1920. Between 1911 and 1925, Turlock was called the Watermelon Capitol of the World. After the lowering of the water table, however, the melon boom in the TID quickly faded. For a time, grapes were a major fruit crop of the region following the decline of melons. Orchard land reached just over 5,000 acres in 1920 and grew to 11,500 acres in 1927. Although the acreage devoted to grapes declined for a time in the 1930s, ultimately acreage devoted to vineyards grew again until the 1970s (Hohenthal, 1971: 214).

By 1912, the TSRR connected Modesto with Stockton. This line operated as both a passenger and a freight feeder system, connecting with the Western Pacific Railroad (WPRR) at Manteca Junction. Modesto was connected with Turlock via rail by 1916 (Paterson, 1989) providing easy access to rail lines for local growers. A rise in canneries throughout the region provided convenient buyers for local fruit and vegetable sellers who, prior to the opening of the canneries had to haul their figs, apricots, and peaches to San Jose or Santa Clara for processing. The TSRR, located near these farms, as well as the WPRR, the Santa Fe, the Central California Traction, the Southern Pacific, and the Stockton Terminal and Eastern railroads, was a fairly successful line (Hatoff et al., 1995).

The main Turlock diversion canal leads from the La Grange Dam along the southern bank of the Tuolumne River for approximately 7 miles to Turlock Lake, historically known as Owen Reservoir. The Main Supply Canal diverts near the western end of Turlock Lake, and carries water to the northeastern edge of the TID. At this point, the Ceres Main Canal carries the water west to the highland above the Tuolumne channel and south through the center of the TID. The Turlock Main Canal diverts at the same gate as the Ceres Main, flows south for approximately 10 miles, and then the main laterals divert the water at intervals of two and three miles, running west to the San Joaquin River (Hohenthal, 1972).

Until the late 1930s, concrete lining predominated canal improvement work. By 1940, only 20 miles of the 132 miles of improved community ditches had pipelines. During the 1944–1945 growing season, a short stretch of concrete lining was removed from a community ditch to make way for underground pipe and from this project, the trend continued. By 1951, the local improvement districts had more miles of pipeline than concrete-lined open canals. The TID canals, however, remained open canals. By 2002, only 3 miles of the 250 miles of TID canals have been replaced with pipeline (TID documents). Local community ditches, however, have been largely replaced with underground pipe line, and only the relief standpipes and gate structures of these underground lines are visible (Paterson, 1989: 263).

The A2PP APE remains relatively rural and much of the area around the proposed project still consists of agricultural fields. The settlement of Crows Landing is near the southern end of the A2PP proposed gas pipeline. The land was settled by J.B. Crow, one of the first wheat growers in the area. Crow established a landing on the San Joaquin River to ship his wheat to market and Crow and his two partners operated a ferry at that landing from 1870 until 1885 (Napton, 1991). Crows Landing Road represents the original road that connected two

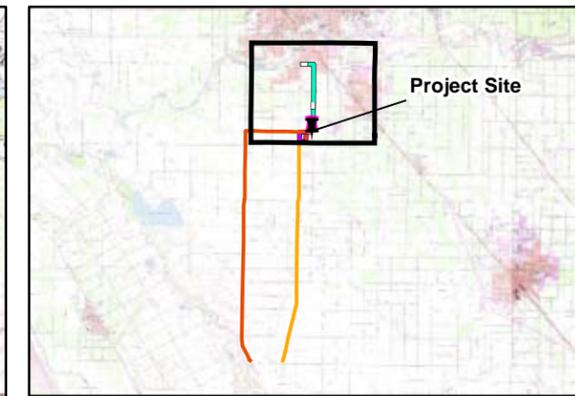
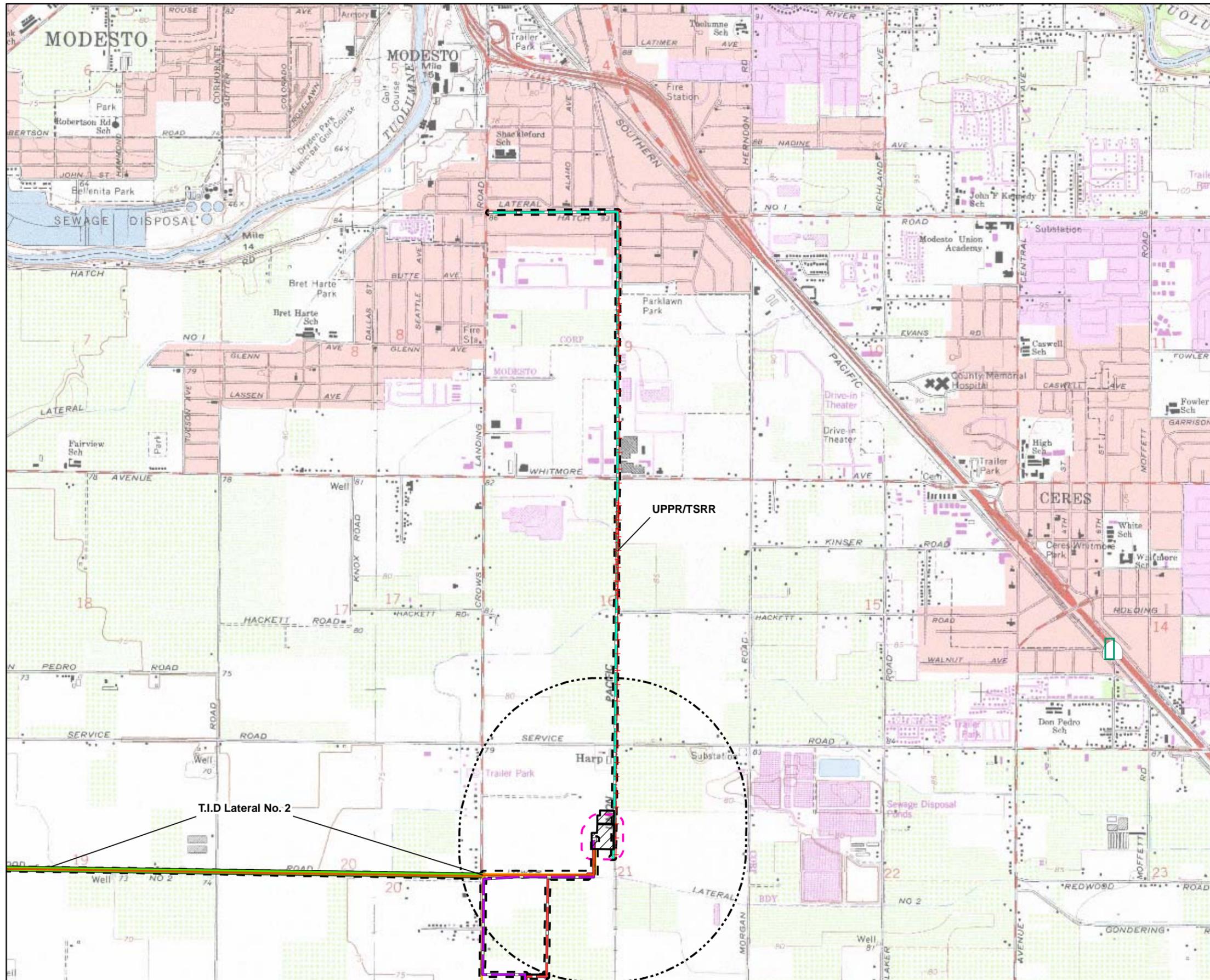
ferries, the Davis and Maze's Ferry on the Tuolumne and the Fairbank's Ferry on the San Joaquin. This main road was established in 1870. Several small taverns were constructed along this main road and served as way stations for travelers. One was constructed at the corner of West Main and Crows Landing Road in 1870 and another was constructed at the corner of Grayson and Crows Landing Road in 1873 by H.C. Rice (Brotherton, 1982). Both of these locations are near the proposed natural gas pipeline corridor which runs along Crow's Landing Road.

5.3.2.5 Cultural Resources Inventory

A cultural resources inventory, which includes archival research, reconnaissance, and a surface pedestrian survey, was conducted for the project. The APE for the project was determined in accordance with the latest CEC *Rules of Practice and Procedure & Power Plant Site Certification Regulations* (CEC, 2007) for assessing potential impacts to archaeological and architectural resources. The results of the resource inventory are presented in the following sections. Figures 5.3-1a through 5.3-1d shows the A2PP plant site, the construction laydown area and/or parking area, the two transmission line corridors, the reconducted 69-kV sub-transmission line corridor, the two alternate natural gas pipeline routes, as well as the archaeological and architectural survey areas. The archaeological survey area includes the A2PP plant site, the construction laydown/parking area, the two transmission line corridors, the reconducted 69-kV sub-transmission line corridor, the two alternate natural gas pipeline routes, a 200-foot buffer around the plant site and laydown area, and a 50-foot buffer around all project linears. The architectural survey area includes the A2PP plant site, the construction laydown area, the two transmission line corridors, and a 0.5-mile buffer.

5.3.2.5.1 Archival Research

CH2M HILL commissioned a literature search for the A2PP from staff of the CHRIS Central California Information Center using a definition of a 1-mile buffer zone around the A2PP plant site, associated laydown/parking area, and a 0.5-mile buffer zone around the transmission lines and the proposed natural gas pipeline corridors. This search radius encompasses the entire research area required by the CEC for both the archaeological and architectural surveys. The CHRIS literature and records review included a review of all recorded archaeological sites as well as all known cultural resource survey and excavation reports. The NRHP, the California Register of Historical Resources (CRHR), California Historical Landmarks, and California Points of Historical Interest, as well as historic maps, including a GLO plat map for T6N, R9E (1853) T5N, R9E (1853-1854), and T4N, R9E (1853-1854), the 1941 *Modesto West*,



- LEGEND**
- Natural Gas Pipeline (Alternate A)
 - Natural Gas Pipeline (Alternate B)
 - 115-kV Circuit 1 Line (Corridor 1)
 - 115-kV Circuit 2 Line (Corridor 2)
 - Reconstructed 69kV Sub-Transmission Line
- Recorded Sites**
- Westport Drain
 - Recorded TID Lateral Segment
 - - - UPRR/TSRR Segment
 - Project Site
- Survey for Archeological Resources**
- 50ft Buffer
 - 200ft Buffer
- Survey for Historic Built Resources**
- 1/2 Mile Buffer

Note:
The Grayson Substation is being developed as a separate Project

This map was compiled from various scale source data and maps and is intended for use as only an approximate representation of actual locations.

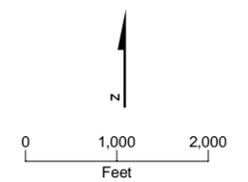
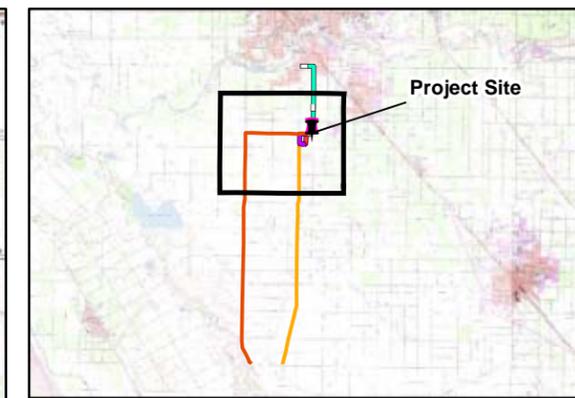
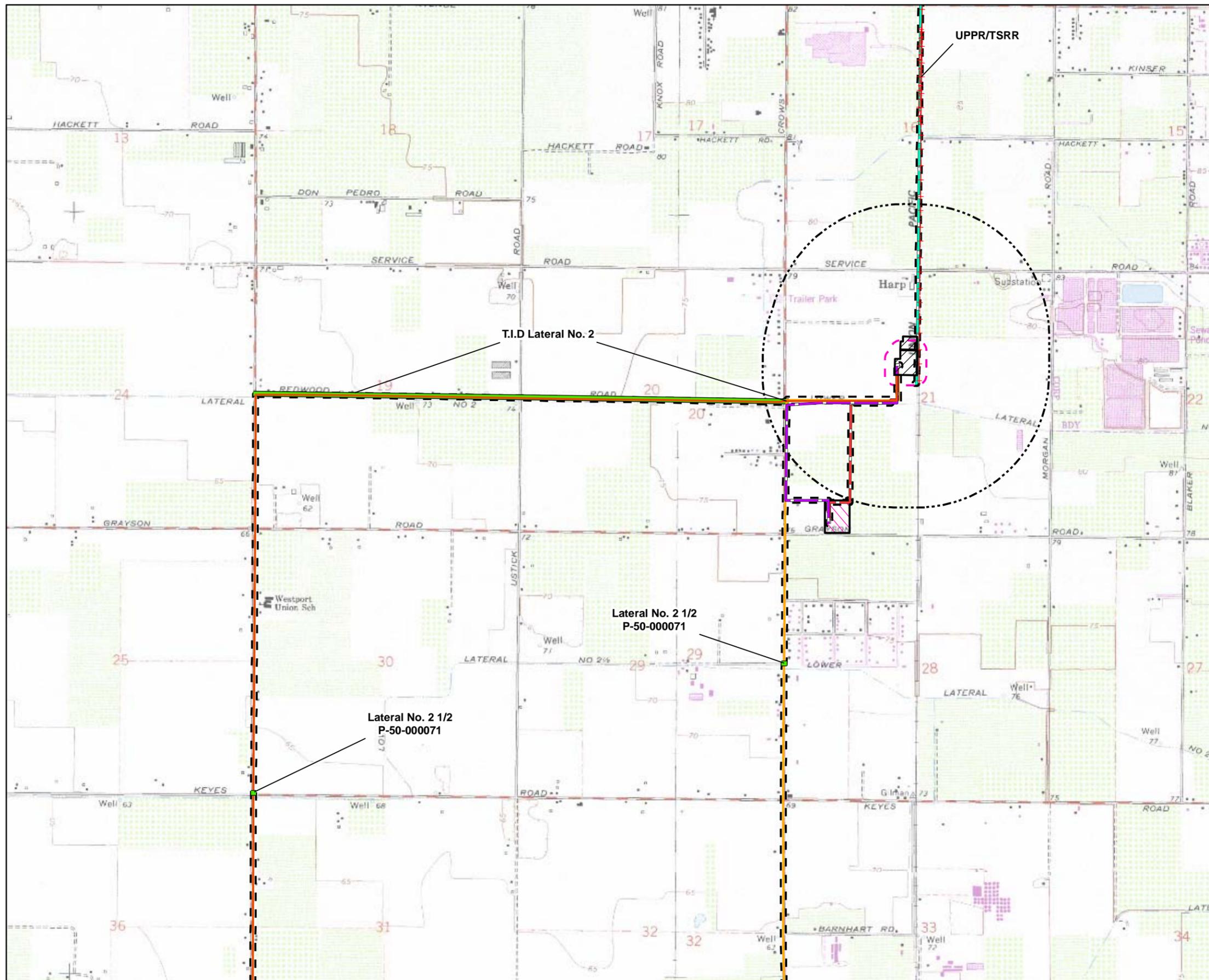


FIGURE 5.3-1A
AREAS SURVEYED FOR
CULTURAL RESOURCES
ALMOND 2 POWER PLANT
CERES, CALIFORNIA



- LEGEND**
- Natural Gas Pipeline (Alternate A)
 - Natural Gas Pipeline (Alternate B)
 - 115-kV Circuit 1 Line (Corridor 1)
 - 115-kV Circuit 2 Line (Corridor 2)
 - Reconstructed 69kV Sub-Transmission Line
- Recorded Sites**
- Westport Drain
 - Recorded TID Lateral Segment
 - UPPR/TSRR Segment
 - ▨ Project Site
- Survey for Archeological Resources**
- 50ft Buffer
 - 200ft Buffer
- Survey for Historic Built Resources**
- 1/2 Mile Buffer

Note:
The Grayson Substation is being developed as a separate Project

This map was compiled from various scale source data and maps and is intended for use as only an approximate representation of actual locations.

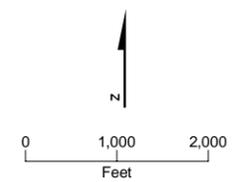
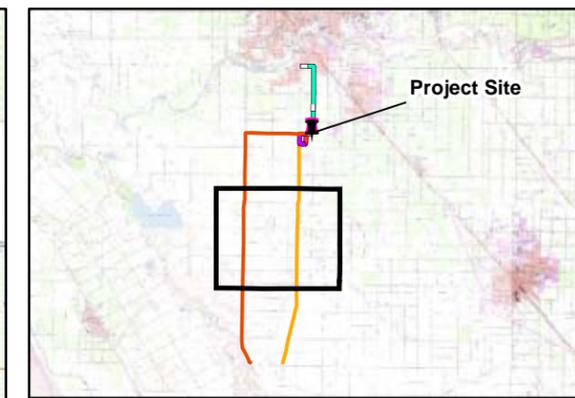
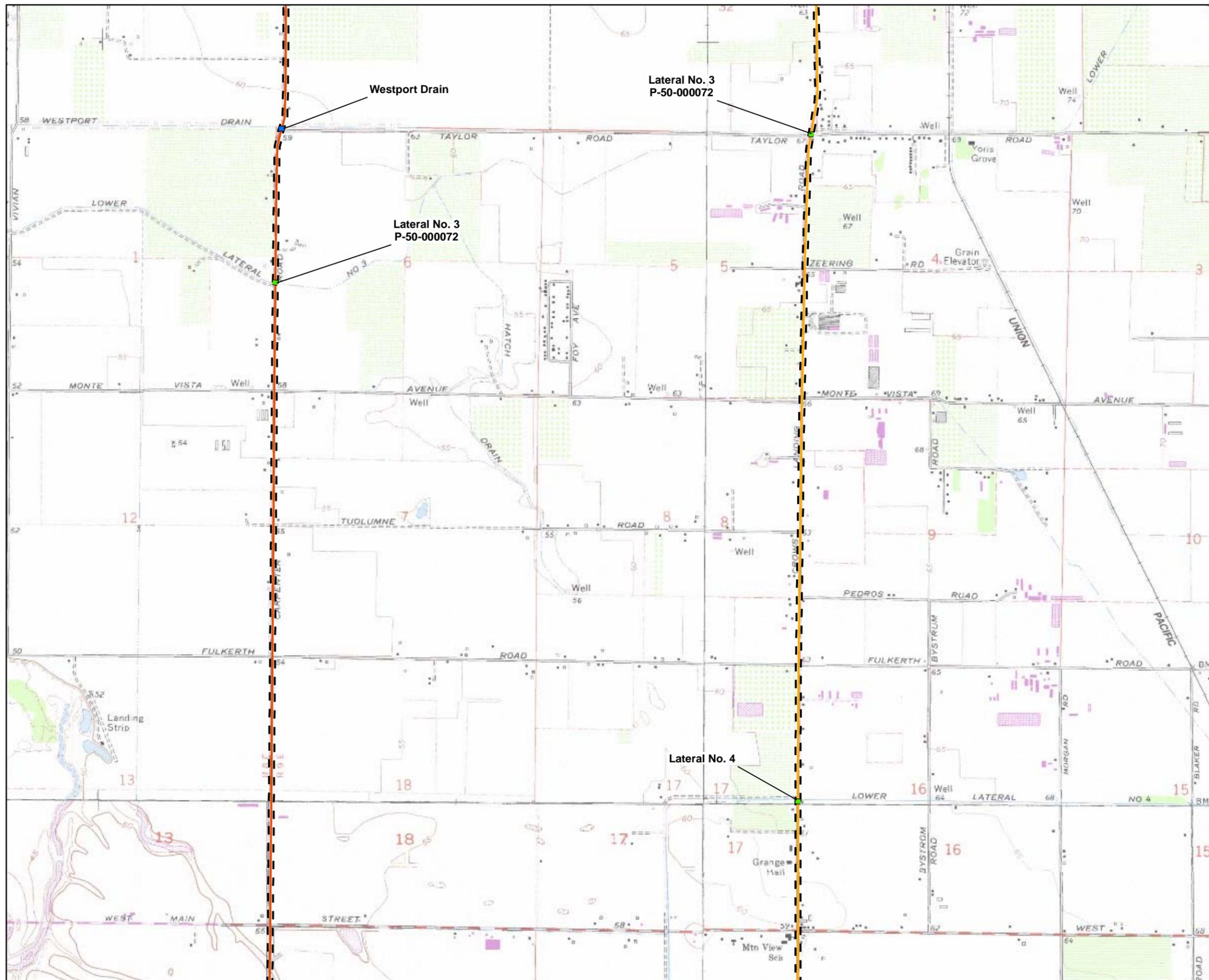


FIGURE 5.3-1B
AREAS SURVEYED FOR
CULTURAL RESOURCES
ALMOND 2 POWER PLANT
CERES, CALIFORNIA



- LEGEND**
- Natural Gas Pipeline (Alternate A)
 - Natural Gas Pipeline (Alternate B)
 - 115-kV Circuit 1 Line (Corridor 1)
 - 115-kV Circuit 2 Line (Corridor 2)
 - Reconstructed 69kV Sub-Transmission Line
- Recorded Sites**
- Westport Drain
 - Recorded TID Lateral Segment
 - UPPR/TSRR Segment
 - ▨ Project Site
- Survey for Archeological Resources**
- 50ft Buffer
 - 200ft Buffer
- Survey for Historic Built Resources**
- 1/2 Mile Buffer

Note:
The Grayson Substation is being developed as a separate Project

This map was compiled from various scale source data and maps and is intended for use as only an approximate representation of actual locations.

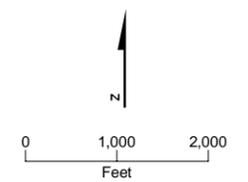
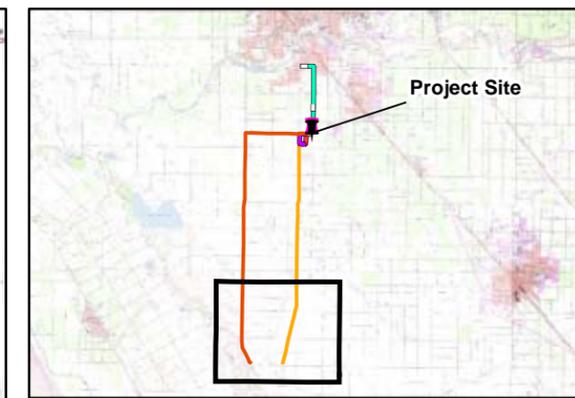
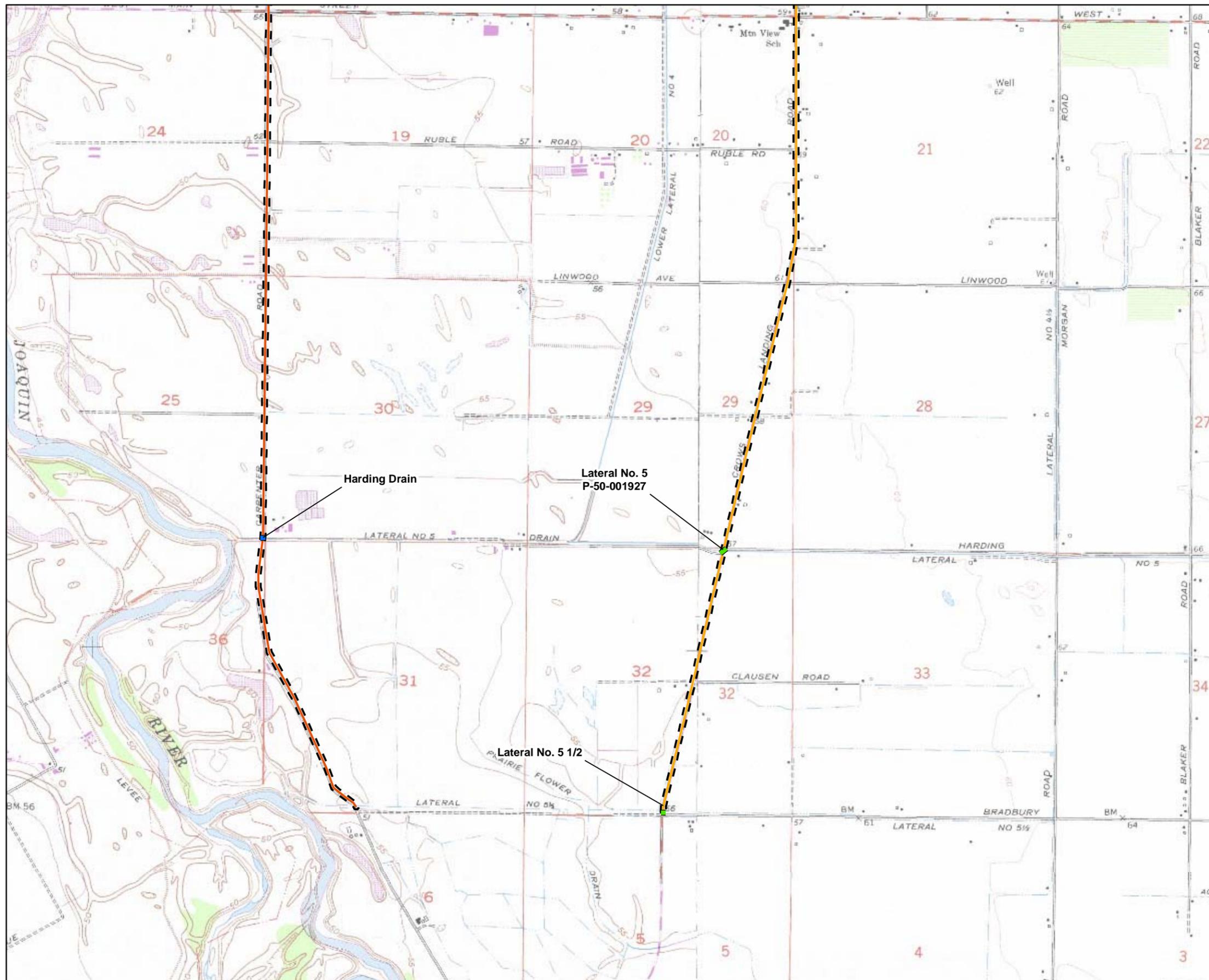


FIGURE 5.3-1C
AREAS SURVEYED FOR
CULTURAL RESOURCES
ALMOND 2 POWER PLANT
CERES, CALIFORNIA



- LEGEND**
- Natural Gas Pipeline (Alternate A)
 - Natural Gas Pipeline (Alternate B)
 - 115-kV Circuit 1 Line (Corridor 1)
 - 115-kV Circuit 2 Line (Corridor 2)
 - Reconductored 69kV Sub-Transmission Line
- Recorded Sites**
- Westport Drain
 - Recorded TID Lateral Segment
 - UPPR/TSRR Segment
 - ▨ Project Site
- Survey for Archeological Resources**
- 50ft Buffer
 - 200ft Buffer
- Survey for Historic Built Resources**
- 1/2 Mile Buffer

Note:
The Grayson Substation is being developed as a separate Project

This map was compiled from various scale source data and maps and is intended for use as only an approximate representation of actual locations.

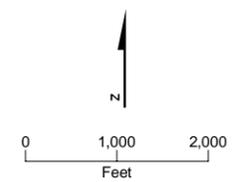


FIGURE 5.3-1D
AREAS SURVEYED FOR
CULTURAL RESOURCES
ALMOND 2 POWER PLANT
CERES, CALIFORNIA

California 15-minute United States Army Corps of Engineers map, the 1947 *Orestimba, California* 15-minute United States Army Corps of Engineers map, the 1952 *Crows Landing, California*, 7.5-minute U.S. Geological Survey (USGS) topographic map, and the 1953 *Brush Lake, California*, 7.5-minute USGS topographic map were all examined. State and local listings were consulted for the presence of historic buildings, structures, landmarks, points of historical interest, and other cultural resources.

Additionally, CHRIS staff was asked to search for previously recorded segments of any of the historic laterals of the TID that crossed either of the natural gas pipeline corridors and, if available, to provide site records of those laterals. Current Stanislaus County Assessor maps also were examined because these maps contain locational information regarding the TID canals and the Westport Drain.

According to information available in the CHRIS files, thirteen previous cultural resource studies, primarily cultural resource survey reports, have been prepared within the A2PP plant site, laydown area, and linears; and an additional 18 studies have been prepared within 1 mile of the A2PP plant site and laydown area and within 0.5 mile of the A2PP linears (Table 5.3-1). Copies of all reports are provided in Appendix 5.3C. It should be noted that report ST-2759 contains several volumes, and only relevant portions are provided.

TABLE 5.3-1
Cultural Resources Reports within 1 Mile of the A2PP

Report Authors and Date	CHRIS Catalogue NADB Numbers
Werner (1986)	ST-0839*
Chavez (1976)	ST-0859*
Clark (1988)	ST-0860*
Napton (1989)	ST-0908*
Napton (1989)	ST-0909*
Napton (1991)	ST-0915
Shannon (1991)	ST-0935
Hill (1992)	ST-1435*
Napton (1992)	ST-1451*
Harmon (1992)	ST-1836*
Jones & Stokes (1990)	ST-1966*
Hatoff et al. (1995)	ST-2759*
Jensen (1996)	ST-2930
Derr (1998)	ST-3212*
Peak and Associates (1997)	ST-3248
Nave (1999)	ST-3630*
Davis-King (2000)	ST-3848
Nelson (2000)	ST-3995

TABLE 5.3-1
Cultural Resources Reports within 1 Mile of the A2PP

Report Authors and Date	CHRIS Catalogue NADB Numbers
Self (2001)	ST-4318
Baloean (2003)	ST-5060
Davis-King (2003)	ST-5115
Losee (2003)	ST-5237
Davis-King (2004)	ST-5254
Billat (2004)	ST-5554
Billat (2005)	ST-5882
Supernowicz (2005)	ST-5903
SWCA Environmental Consultants (2006)	ST-6345
Peak and Associates (2006)	ST-6446*
Relva (1996)	ST-6599
Reese (2008)	ST-6690
Donaldson (2006)	ST-6777

*Located in the A2PP plant site, laydown area, or within any of the A2PP linears.

Source: CHRIS Central California Information Center. See Appendix 5.3C for full bibliographic references

In reviewing the 31 studies, no cultural resources have been previously recorded within the project area or within a 1-mile radius of the A2PP. There are no historic districts, cultural landscapes, NRHP-listed or eligible properties within the search radius.

According to the Annals of Stanislaus County, two taverns were located adjacent to the proposed gas pipeline route situated along Crow's Landing Road. One of these taverns was located at the intersection of Grayson and Crows Landing Road and the other was located at the corner of West Main and Crows Landing Road. The structure at Grayson and Crows Landing Road is not extant on any of the historical maps reviewed for the area. The structure at West Main and Crows Landing Road burned down in 1943 and now a modern building is situated at that location. Stanislaus County Assessor map pages for the project area indicate locations of historical portions of Crows Landing and Carpenter Road which have been realigned.

Several structures and buildings were noted on the historical maps within the overall A2PP APE. The majority of these structures are residences and associated outbuildings. Several laterals and the Westport Drain located within the TID are visible on historical maps and cross the proposed natural gas pipeline corridors. The UPRR line, historically the TSRR, runs adjacent to the 69-kV sub-transmission line that is to be reconductored, and the Southern Pacific Railroad San Joaquin Valley Mainline, formerly the historic CPRR, is located within the 1-mile search radius.

The TSRR and historic canals are described in further detail in the following subsections.

P-50-00083 Tidewater Southern Railroad

The UPRR (formerly TSRR), which runs adjacent to the 69-kV sub-transmission line that will be reconductored and which is less than 200 feet east of the proposed plant site, has been recorded in other parts of Stanislaus County as P-50-00083 (Napton, 1994; Sharpe 2003) and in San Joaquin County (Hatoff, 1995) as P-39-00015 (CA-SJO-256H). In the A2PP APE, the TSRR has not yet been recorded. None of the segments of the TSRR investigated by Napton (1994), Sharpe (2003), and Hatoff (1995) were determined to be NRHP or CRHR-eligible. These previously recorded and discontinuous segments are not considered eligible to the NRHP because the segments lack integrity due to modern improvements made to the tracks, the rail ties, and the rail beds (Napton, 1994; Sharpe, 2003; Hatoff, 1995).

The section of rail line visible on the historical maps reviewed and located in the A2PP APE is a segment of the TSRR interurban electric railway. This line originally connected passengers between Taylor Street in Stockton and downtown Modesto. The line was eventually converted into a feeder line for the main Southern Pacific and Central Pacific lines, which were the first railroads to run through the San Joaquin Valley. The TSRR is now a part of the UPRR. One separate section of this railroad is recorded elsewhere in Stanislaus County as site P-50-00083.

The historic TSRR was incorporated in 1910 and was originally an interurban electric railway that was intended to run from Stockton south through the San Joaquin Valley. In 1912, the TSRR consolidated with the Tidewater and Southern Transit and began operation as the Tidewater Southern Railway (Napton, 1994). By 1916, the line ran south to Turlock. The line was only electrified to Modesto and steam engines ran on the remainder of the track between Modesto and Turlock. The TSRR remained an independent line until 1917 when it was acquired by the WPRR who bought much of the stock in the TSRR and began changing the line into a conventional feeder line. The purchase of the TSRR was a part of the WPRR's expansion designed to extend its market through the acquisition of feeder lines that ran into the main WPRR line. By the 1930s, passenger service on the TSRR was stopped and most of the electric service was removed (Hatoff et al. 1995). The line was further upgraded after World War II as the newer heavier diesel locomotives required heavier rail (Sharpe, 2003). The line is still actively used between Modesto and Stockton as a freight feeder line.

The WPRR merged with the UPRR in 1983, two months before WPRR's 80th anniversary. Shortly after, the UPRR began an additional series of improvements to the old WPRR tracks to enable larger locomotives and heavier freight cars running at higher speeds to run on the WPRR. The upgrades included heavier rails, new ties, and improved rail beds to permit higher tonnage on the tracks (Bridges, 1983).

Canals of the TID

Review of available historical USGS maps show the proposed routes of the natural gas supply pipelines crossing several of the historic TID's lateral canals, including Lateral 2, Lateral 2½, Lateral 3, Lateral 4, Lateral 5, and Lateral 5½, as well as the Westport Drain and the Harding Drain, also called Lateral 5 Drain. These laterals were completed between 1899 and 1915. The first TID drain, the Moore Drain which connected to Lateral 3 near Crows Landing Road, was dug in 1907; however, TID did not begin digging drains in earnest until 1914, and the Westport Drain and the Harding Drain appear to date to this period. Segments of three of these laterals, Lateral 2½, Lateral 3, and Lateral 5 have been previously recorded elsewhere in Stanislaus County as P-50-000071, P-50-000072, and P-50-01927, respectively. In

the A2PP APE, none of the laterals have yet been recorded. None of the segments of the three laterals listed above were determined to be NRHP or CRHR eligible.

P-50-000071. Lateral 2½. A segment of Lateral 2½ has been previously recorded elsewhere in Stanislaus County. Lateral 2½ was completed between 1914 and 1915. Lateral 2½ connects to Lateral 2 just west of Lateral 2's connection to the Turlock Main Canal on its eastern end and the Westport Drain on the west side. Originally, Lateral 2½ was an open earth canal. In the 1930s, concrete lining of several of the community ditches was begun and many of the community ditches were replaced in favor of concrete water pipeline. During the early 1950s, TID lined many of the laterals with concrete to improve water flow and to stop the erosion of the laterals (Paterson, 1989). Concrete lining was placed into Lateral 2½ beginning on the eastern end of the lateral in the 1930s.

Lateral 2½ was recommended as not eligible for listing on the NRHP. Lateral 2½ was originally an open earth canal that was later improved with concrete lining beginning in the 1930s. Over the decades, the concrete lining was repaired and maintained. Repairs and upgrades to the check dams and flow controls along the canal have occurred over the decades, as well, affecting the overall integrity of the canal. Additionally, because lined irrigation laterals are common features in the San Joaquin Valley, Lateral 2½ is not considered a unique example of a segment of an early irrigation system and was recommended as not eligible for listing in the NRHP (JRP, 1993a).

P-50-000072. Lateral 3. A segment of Lateral 3 has been previously recorded elsewhere in Stanislaus County. Lateral 3 was completed in 1899. Lateral 3 connects to the Turlock Main Canal on its eastern end and the Westport Drain on its western end. Originally, Lateral 3 was an open earth canal. In the 1930s, concrete lining of several of the community ditches was begun and many of the community ditches were replaced in favor of concrete water pipeline. During the early 1950s, TID lined many of the laterals with concrete to improve water flow and to stop the erosion of the laterals (Paterson, 1989). Concrete lining was placed into Lateral 3 beginning on the eastern end of the lateral in the 1930s.

Lateral 3 was recommended as not eligible for listing on the NRHP. Lateral 3 was originally an open earth canal that was later improved with concrete lining beginning in the 1930s. Over the decades, the concrete lining was repaired and maintained. Repairs and upgrades to the check dams and flow controls along the canal have occurred over the decades, as well, affecting the overall integrity of the canal. Additionally, because lined irrigation laterals are common features in the San Joaquin Valley, Lateral 3 is not considered a unique example of a segment of an early irrigation system and was recommended as not eligible for listing in the NRHP (JRP, 1993b).

P-50-01927. Lateral 5. A segment of Lateral 5 has been previously recorded elsewhere in Stanislaus County. Lateral 5 was completed in 1903. Lateral 5 connects to the Turlock Main Canal on its eastern end and drains into the San Joaquin River on the west side. Originally, Lateral 5 was an open earth canal. In the 1930s, concrete lining of several of the community ditches was begun and many of the community ditches were replaced in favor of concrete water pipeline. During the early 1950s, TID lined many of the laterals with concrete to improve water flow and to stop the erosion of the laterals (Paterson, 1989). Concrete lining was placed into Lateral 5 beginning on the eastern end of the lateral in the 1930s.

This segment of Lateral 5 was recommended not eligible for listing on the NRHP. Lateral 5 was originally an open earth canal that was later partially improved with concrete lining beginning in the 1930s. This previously recorded segment has been lined with concrete. Over the decades, the concrete lining was repaired and maintained. Repairs and upgrades to the check dams and flow controls along the canal have occurred over the decades, as well, affecting the overall integrity of the canal. The canal segment, being a very small part of a much larger canal system, was recommended as not eligible for listing in the NRHP.

Additionally, this previously recorded segment of Lateral 5 was evaluated in accordance with Section 15064.5 (a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code. This canal segment does not appear to meet any of the significance criteria as outlined in these guidelines (Bard and Calvit, 2002).

5.3.2.5.2 Archaeological Field Survey

A cultural resources survey of the proposed A2PP APE was conducted in 2009 on January 15 and 16, February 5, and March 16 and 17 by CH2M HILL Cultural Resources Specialists Natalie Lawson, M.A., RPA, and Aaron Fergusson, M.A., RPA, who meet the qualifications for Principal Investigator stated in the Secretary of the Interior's standards and guidelines for archaeology and historic preservation (USNPS, 1983). This field survey included the A2PP plant site and temporary laydown area, proposed natural gas pipeline corridors, proposed transmission lines to the Grayson Substation, and the corridor for the reconducted 69-kV sub-transmission line.

As per the latest CEC *Rules of Practice and Procedure & Power Plant Site Certification Regulations* (CEC, 2007), in addition to the plant site and the construction laydown and/or parking area, a 200-foot minimum buffer was also surveyed for cultural resources around these facilities. In addition to the survey of the two natural gas pipeline alternatives and transmission lines, a 50-foot minimum buffer was surveyed around the both natural gas pipeline alternatives.

The survey used linear pedestrian transects spaced at 10 meters and opportunistic examination of exposed soils to examine the survey areas to determine whether archaeological deposits might be present. Exposed soils, consisting mainly of previously disturbed agricultural sediments and road bed material, were inspected carefully, and no evidence of cultural materials was noted.

Visibility within A2PP plant site and within the laydown/parking area was excellent. Some areas on the northern edge of the laydown area had moderate visibility, at approximately 30 percent, but the remaining A2PP plant site and laydown/parking area were almost entirely bare. The proposed A2PP plant site has been used as a borrow area in the past and in 2008 the site was backfilled. The laydown area adjacent to the plant site appeared to have been recently graded.

Visibility along the 69-kV sub-transmission line to be reconducted was excellent. Most of the area within the corridor surveyed for this transmission line had been graded for building construction, and for paved Hatch Road, or parking. Hatch Road runs adjacent to the east-west portion of the transmission corridor. When the transmission corridor turns south towards the A2PP plant site, the corridor runs adjacent to the UPRR line, which is an active rail line. Visibility along this line remains good.

Visibility along the proposed transmission lines was fair, at approximately 50 percent, due to vegetation within the fallow agricultural fields. Visibility along the orchards was excellent at nearly 100 percent. The area within the proposed transmission corridors runs east-west along TID Lateral 2 before turning south to run through a fallow agricultural field. The field is disturbed by agricultural activities, such as discing or plowing. A community ditch runs east-west through the field, and the relief standpipes visible in the field indicate the presence of underground irrigation pipe within the field and within the transmission line corridors.

Visibility within the proposed natural gas pipeline corridors ranged from excellent along portions of Crows Landing and Carpenter roads in graded parking lots or along the graded rights-of-way for the paved roads to poor within fallow agricultural fields adjacent to the paved roads. Areas within orchards situated along the roads had excellent visibility at nearly 100 percent. The areas along the natural gas pipeline route are disturbed by a transmission line, an existing underground gas line, grading for paved Crows Landing Road and Carpenter Road, building construction, or parking. Visibility along the proposed transmission line corridors ranged from fair at approximately 60 to 70 percent along the edges of the agricultural fields to poor at approximately 30 percent within the fallow fields. These areas are disturbed by both agricultural activities, including the building of community ditches and placement of underground irrigation pipe, as well as the grading. Underground irrigation pipe, which replaced the historical community ditches that connected the TID laterals bisecting the corridors, are extant in the overall APE; relief standpipes and gate structures to control water flow were visible along all of the surveyed natural gas pipeline routes.

All observed soils in the A2PP APE range from medium to dark brown loamy sand. Rarely, fist-sized cobbles were observed and it is likely that these were carried into the APE.

A 4-mile segment of the historic TSRR, P-50-00083, was recorded on DPR 523 forms within the corridor of the reconducted 69-kV sub-transmission line and within the 200-foot buffer around the A2PP plant site (Appendix 5.3B). This segment runs between Hatch Road and Wood Road and was a part of the TSRR completed in 1916. Although the segment recorded in the A2PP was initially intended to be an electric line, it was never actually electrified (Hatoff et al., 1995). The newly-recorded section of TSRR located within the transmission line corridor runs along the footprint of the original historical railroad grade; however, modern upgrades to the rail line, including modern rail crossings, upgraded rail lines and ties are extant. Additionally, the rail grade itself has been modified to allow for heavier loads to be run upon the tracks. Consistent with all other recorded segments of this rail line, this particular segment of the TSRR does not appear to be eligible for listing on the NRHP as it no longer retains integrity.

Although historical roads were observed on historical maps of the A2PP APE and other historic structures, including the taverns located along Crows Landing Road as mentioned in the Annals of Stanislaus County, are known to have existed in the area, no trace of these were located during the survey. Crows Landing Road has been repaved and in some areas realigned from the historical road. Carpenter Road has also been repaved and although a small section of a historical road is shown on modern assessor maps, this section was not observed during the field survey. Despite the lack of resources found during the A2PP survey, cultural sensitivity is still considered moderate within the A2PP APE because the

area was heavily traveled historically and many areas in the A2PP APE contain deposition which is still in fair condition.

Given the local topography, distance to major stream drainages or other archaeologically sensitive features, and the scale and scope of previous ground disturbance in the area, archaeological sensitivity of the surface soils of the A2PP APE is considered moderate to low. The sensitivity of the underlying soils is also considered moderate to low, given that some possibility exists for intact cultural deposits to be present beneath the heavily disturbed agricultural zone in and along the agricultural fields where the new transmission lines are proposed or within the orchards where the proposed natural gas pipeline routes are located. Additionally, the A2PP is located near several historical features, and the area around Crows Landing Road has been heavily used historically. Although the archaeological sensitivity is considered moderate to low, there is an overall low density of previous finds in this general area, despite several previous surveys.

5.3.2.5.3 Architectural Survey

A cultural resource survey of the built environment of the A2PP APE was conducted on January 15 and 16, 2009, by Jessica B. Feldman, a CRS who meets the qualifications for Architectural Historian, as stated in the Secretary of the Interior's standards and guidelines for archaeology and historic preservation (USNPS, 1983). In order to assess potential impacts to the historic built environment, CH2M HILL examined the A2PP plant site, the laydown/parking area, the proposed transmission line corridors, and, in accordance with *CEC Rules of Practice and Procedure & Power Plant Site Certification Regulations* (CEC, 2007), no less than 0.5 mile from the aforementioned areas.

The literature search revealed there are no known NRHP- or CRHR-listed properties located in the A2PP APE. A windshield survey was undertaken and buildings that appeared to be more than 45 years of age were recorded within the area discussed above. Following this windshield survey, assessor data were reviewed to determine the ages of these properties. The review of the assessor data established that a total of 63 addresses contained buildings and/or structures constructed either in or prior to 1964. One additional property, for which no date was listed on the assessor record, was included in the list of historic addresses because this property appears to have been constructed prior to 1964. A number of the addresses contained prefabricated homes and trailers in addition to significantly altered Minimal Traditional and Ranch-style residences. All of the Minimal Traditional and Ranch-style properties were constructed between 1940 and 1963. None of these properties appear to meet NRHP Criterion A or B, and most do not retain enough integrity to meet NRHP Criterion C. There is no pattern of development or use of style in any of the three areas or neighborhoods where these properties are located.⁵

⁵ CH2M HILL met with CEC cultural staff Beverly Bastian and Amanda Blosser on February 18, 2009, to discuss the findings of the architectural survey within the 0.5-mile survey area and to formulate an acceptable approach to assessment and level of recordation of the properties present. CH2M HILL provided visual aids to CEC cultural staff including color aerial maps of the project area and photographs of these properties to illustrate conditions and findings. These photographs are provided in Appendix 5.3F. As a result, CEC staff agreed that basic data for these structures would be presented in the form of a table and included in this AFC section and in the technical report, and that preparation of DPR forms for each of these Minimal Traditional and Ranch-style properties would not be required. The table includes the address, year built, and the reason for entry in the table (i.e., lack of integrity). Representative photographs of these buildings were to be provided as well. DPR forms for those properties that might meet the NRHP criteria would still be required. Roughly two-thirds of the addresses surveyed would be included in the table of ineligible properties (See Table 5.3-3).

Several laterals and two drains, which are a part of the overall TID system, are bisected by the proposed natural gas pipeline routes. The majority of these laterals, as well as the drains, are recorded as discrete 100-foot segments where the proposed gas line corridors bisect each lateral or drain. One of the proposed natural gas pipeline routes runs adjacent to Lateral 2 between the A2PP plant site and Carpenter Road for a distance of approximately 2 miles, and this entire segment is recorded, as well.

The first waters of the TID were delivered to the field of Henry Stirring in 1900 from Lateral 0. Lateral 0, which is no longer extant within the TID, was not located within the A2PP APE. The entire TID canal system was up and flowing by the 1904–1905 growing season. Additional laterals were constructed between 1914 and 1915. By 1907, problems with the rising water table related to the irrigating of the TID began. The TID excavated the first drain, the Moore Drain, which crossed Crows Landing Road and connected to Lateral 3 that year. More landowners asked the TID board to help drain their lands, and the TID began creating other drains in 1918 (Paterson, 1989). The Westport Drain and the Harding Drain appear to have been created during these efforts and are visible on historic maps of the area that post date 1918. The Harding Drain is called Lateral 5 Drain on the historical maps reviewed but is referred to as the Harding Drain by the TID because the drain runs parallel to Harding Road (Baysinger, 2009). The recorded segments of Lateral 2, Lateral 2½, Lateral 3, Lateral 4, Lateral 5, and Lateral 5½ were originally open earth canals. With the exception of Lateral 5, all sections of the laterals recorded within the proposed natural gas pipeline routes, have been improved with concrete lining. These improvements appear to have been made beginning in the 1950s and continuing through the 1980s as evidenced by research and dates imprinted into the concrete. Within A2PP APE, Lateral 5 is the only canal that has not been upgraded with a concrete lining.

With the exception of Lateral 5, all of the canal segments discussed above were originally open earth canals that were later improved with concrete lining beginning in the 1950s and continuing through the 1980s. Over the decades, the concrete lining was repaired and maintained. Repairs and upgrades to the check dams and flow controls along the canal have occurred over the decades, as well. All of the canal segments recorded here possess integrity of location, as they are found in the same locations as when they were originally constructed. However, these canal segments only retain some integrity of setting. Although parts of the area of these recorded canal segments remain predominately rural farmland, several post-1920 structures are located in the vicinity of each canal, including industrial and agri-business development. Additional roads cross the canals and, aside from Lateral 5, each canal segment has sustained a loss of integrity of materials and workmanship as it is no longer an open earth canal, but rather lined with concrete that has been continually repaired and maintained. Also, although the check dams retain much of their original construction, all have been upgraded and modern metal bridges have been added at each dam. Each canal segment does retain some integrity of association, as each canal segment is still used for irrigation. Since the materials and workmanship of these canal segments have been replaced with more modern materials, none of the concrete-lined canals retain integrity of feeling of the TID area before 1920. These recorded segments do not retain the essential physical features that made up its character or appearance during the period of its association.

Each canal segment, including Lateral 5, being a very small part of a much larger canal system, does not itself convey clear association with significant trends in agriculture on a

national level (Criterion A), nor is it associated with individuals that made a significant contribution to history at the local, state, or national level (Criterion B). None of the canal segments are important examples of a type or method of construction (Criterion C), and because of repeated repairs and extensive upgrades, none of the evaluated canals can serve as a source of important information about historical canal construction or technology (Criterion D). The small segment of Lateral 5 recorded here, although still a good example of an open-earth canal, can offer no further important information about historical canal construction or technology outside of the complete recording of the canal conducted during this project. Thus, none of these segments appear to meet the criteria for listing in the NRHP.

Each canal segment was evaluated in accordance with Section 15064.5 (a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code. No canal segment appears to meet any of the significance criteria as outlined in these guidelines.

Similarly, the recorded segments of the Westport Drain and the Harding Drain are a small part of the larger TID system and do not themselves convey clear association with significant trends in agriculture on a national level, nor are they associated with individuals that made a significant contribution to history, nor are they important or unique examples of a type or method of construction. The original drains in the TID were open earth "V" ditches, which were gradually replaced with underground concrete pipe (Paterson 1989). The Westport Drain is a large ditch that now contains underground pipe that is visible at the recorded segment. The drain west of the recorded segment remains an open V ditch. The Harding Drain remains an open earth "V" ditch where it intersects Carpenter Road.

The Westport Drain and the Harding Drain were evaluated in accordance with Section 15064.5 (a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code, and do not appear to meet any of the significance criteria as outlined in these guidelines.

Twenty-three properties constructed in 1964 or earlier are located within 0.5 mile of the A2PP plant site, laydown/parking area, and the proposed transmission line corridors that might meet the NRHP criteria. Table 5.3-2 lists these properties, as well as the TID laterals and the Westport Drain, the building style, the year built, and the NRHP status of each property. Associated DPR forms for these thirty properties are located in Appendix 5.3B.

TABLE 5.3-2
Summary of Buildings and Structures over 45 years of age

Structure/Site	Description	Year Built	NRHP/CRHR Status
5242 Avenue A	1 ½ story Craftsman style residence	1925	Does not meet NRHP Criterion A, B or C.
5336 Avenue D	1 ½ story Craftsman style residence	1940	Does not meet NRHP Criterion A, B or C.
125 Cowan Street	1 to 1 ½ story (split-level) International style residence	1950	Eligible for the NRHP under Criterion C.
4019 Crows Landing Road	One- to- story commercial building	1915	Does not meet NRHP Criterion A, B or C.

TABLE 5.3-2
Summary of Buildings and Structures over 45 years of age

4307 Crows Landing Road	One-story bungalow	1930	Does not meet NRHP Criterion A, B or C.
4443 Crows Landing Road	1 ½ story Cape Cod residence, detached garage, barn	1940	Does not meet NRHP Criterion A, B or C.
4607 Crows Landing Road	One-story bungalow	1938	Does not meet NRHP Criterion A, B or C.
4619 Crows Landing Road	One-story bungalow		Does not meet NRHP Criterion A, B or C.
4742 Crows Landing Road	One-story Craftsman style residence, barrel-arch warehouse/garage	1903	Does not meet NRHP Criterion A, B or C.
4886 Crows Landing Road	Late 19th Century 1 ½ story residence, prefabricated residence, sheds	1890	Does not meet NRHP Criterion A, B or C.
5019 Crows Landing Road	Unknown	Circa 1915	Does not meet NRHP Criterion A, B or C.
5237 Crows Landing Road	Farmstead: 2-story Craftsman residence, tankhouse, barn	1912	Eligible for the NRHP under Criterion C
5336 Crows Landing Road	1-story Minimal Traditional residence	1943	Does not meet NRHP Criterion A, B or C.
348 E. Grayson Road	1 ½-story bungalow, prefabricated residence	1904	Does not meet NRHP Criterion A, B or C.
706 E. Grayson Road	Unknown, no access to property	1953	Does not meet NRHP Criterion A, B or C.
943 E. Grayson Road	Farmstead: 1-story Minimal Traditional residence, paddocks, barns	1957	Does not meet NRHP Criterion A, B or C.
530 W. Grayson Road	[Two-story Foursquare style residence and associated tankhouse	1910	Does not meet NRHP Criterion A, B or C.
301 Lathrop Road	1 ½-story Craftsman residence	1925	Does not meet NRHP Criterion A, B or C.
401 Lathrop Road	Style unknown	1932	Does not meet NRHP Criterion A, B or C.
600 San Joaquin Avenue	Farmstead: 1-story Ranch, frame barn	1948	Does not meet NRHP Criterion A, B or C.
142 W. Service Road	2 two-story prefabricated warehouses	1948	Does not meet NRHP Criterion A, B or C.
624 E. Service Road	Commercial/agricultural buildings	1958	Does not meet NRHP Criterion A, B or C.
TID Lateral 2	Irrigation canal	1899	Does not meet NRHP Criterion A, B, C, or D.
TID Lateral 2½ P-50-000071	Irrigation canal	1914-1915	Does not meet NRHP Criterion A, B, C, or D.
TID Lateral 3 P-50-000072	Irrigation canal	1899	Does not meet NRHP Criterion A, B, C, or D.
TID Lateral 4	Irrigation canal	1903	Does not meet NRHP Criterion A, B, C, or D.
TID Lateral 5 P-50-01927	Irrigation canal	1903	Does not meet NRHP Criterion A, B, C, or D.

TABLE 5.3-2
Summary of Buildings and Structures over 45 years of age

TID Lateral 5½	Irrigation canal	1914-1915	Does not meet NRHP Criterion A, B, C, or D.
Westport Drain	Irrigation drain	Post 1914	Does not meet NRHP Criterion A, B, C, or D.
Harding Drain (Lateral 5 Drain)	Irrigation drain	Post 1914	Does not meet NRHP Criterion A, B, C, or D.

More than two-thirds of the residential buildings in the project study area fell into two stylistic categories: Modern and Contemporary Folk (McAlester, 1991). “Modern” homes, such as the Minimal Traditional style, were constructed as early as the late 1930s, although the Ranch style was the prevailing type by the 1950s and 1960s. Both styles are typically one-story high with little or no extraneous decoration or ornamentation. The Minimal Traditional style house may have architectural details that reference Craftsman, Tudor or Cape Cod styles, while the Ranch may contain small features that reflect the Colonial Revival style. Both styles reflect the homebuilders’ desire to construct numerous homes quickly and efficiently, especially in the post World War II era, when homeownership was on the rise at a time of housing shortage. In the project area, most of these homes lacked integrity due to the application of stucco to exterior, the removal of original windows and additions or were not noteworthy examples of the styles.

“Contemporary Folk,” also referred to as prefabricated (prefab) or manufactured homes, were available as early as the 1940s, and continue to be a popular type of house due to their inexpensive construction costs; they were also billed as “functional,” due in part to their compact footprints (Carley, 1994). Manufactured homes could be built at the site with prefabricated materials being put together within a matter of days or even hours. These homes also could be built at a factory and moved to the project site by truck and trailer, which was made much easier in the era of the freeway and interstate highway programs of the 1950s and 1960s. As with the “Modern” styles, these homes are typically one-story and unadorned. Stylistic differences may include roof type or color of the exterior cladding, but most have rectangular, narrow footprints with low pitched roofs and their exterior appearances don’t often differ from one house to the next. This type also includes the “mobile home” or “trailer,” which date to the early 1930s, and were intended to be used for temporary housing. As with prefab homes, there is little variety in architectural detail. However, the trailers and mobile homes in the project area are permanent structures. Most appeared intact, but none were important examples of the style.

Examples of these four architectural styles can be viewed in Appendix 5.3F. Table 5.3-3 provides a summary of buildings and structures within the area surveyed for architectural resources over 45 years of age that are considered ineligible for NRHP or CRHR.

TABLE 5.3-3

Summary of Buildings and Structures over 45 years of age considered ineligible for NRHP or CRHR

Address	Year Built	Reason
5200 Avenue A	1947	A Ranch style residence which does not meet NRHP Criterion A, B or C
5201 Avenue B	1940	Minimal Traditional style residence which is lacking integrity (windows replaced, porch altered, exterior material replaced)
5224 Avenue B	1947	Minimal Traditional style residence which lacks integrity (windows replaced, exterior material altered, entrance altered, carport addition, porch alterations).
5236 Avenue B	1963	A trailer which does not meet NRHP Criterion A, B or C.
5230 Avenue D	1960	Minimal Traditional style residence which does not meet NRHP Criterion A, B or C.
129 Bragg Road	1940	Minimal Traditional style residence which lacks integrity (exterior material is not original, windows replaced).
219 Bragg Road	1950	Ranch style residence which lacks integrity (windows replaced, addition to rear, possible enclosure of garage, exterior material replaced).
220 Bragg Road	1950	Minimal Traditional style residence lacking integrity due to possible garage conversion, window replacement and stucco exterior.
225 Bragg Road	1950	Minimal Traditional style residence which does not meet NRHP Criterion A, B or C.
301 Bragg Road	1946	Minimal Traditional style house lacks integrity.
308 Bragg Road	1936	A trailer/prefabricated residence which does not meet NRHP Criterion A, B or C.
200 Cowan Street	1963	A prefabricated residence which does not meet NRHP Criterion A, B or C.
209 Cowan Street	1947	A prefabricated residence which does not meet NRHP Criterion A, B or C.
255 Cowan Street	1963	A prefabricated residence which does not meet NRHP Criterion A, B or C
261 Cowan Street	1963	A Ranch style residence which does not meet NRHP Criterion A, B or C
4201 Crows Landing Road	1940	A Minimal Traditional style residence which does not meet NRHP Criterion A, B or C.
4363 Crows Landing Road	1947	The style of this residence is not clear, but it does not appear to meet NRHP Criterion A, B or C.
4401 Crows Landing Road	1947	A Minimal Traditional style residence that does not meet NRHP Criterion A, B or C.
4419 Crows Landing Road	1950	A Minimal Traditional style residence that does not meet NRHP Criterion A, B or C.
4431 Crows Landing Road	1950	A Minimal Traditional style residence that does not meet NRHP Criterion A, B or C
4467 Crows Landing Road	1963	This residence lack a clear style or stylistic influence and does not meet NRHP Criterion A, B or C
4625 Crows Landing Road	1944	A Minimal Traditional style residence that lacks integrity due to window replacement (and possible rearrangement/realignment of windows), exterior stucco and changes to the setting.

TABLE 5.3-3

Summary of Buildings and Structures over 45 years of age considered ineligible for NRHP or CRHR

4627 Crows Landing Road	1947	A Minimal Traditional style residence which does not meet NRHP Criterion A, B or C.
4631 Crows Landing Road	1939	A Minimal Traditional style residence that lacks integrity due to changes in the setting, the addition and enlargement of the garage (possibly converted to a residential building), exterior material likely replaced and window replacement.
4730 Crows Landing Road	1960	A prefabricated residence which does not meet NRHP Criterion A, B or C. Ancillary buildings do not meet NRHP Criteria either.
4731 Crows Landing Road	1941	A Minimal Traditional style residence which has lost integrity due to window replacement, and additions to the original footprint.
4830 Crows Landing Road	1960	A Ranch style residence which does not meet NRHP Criterion A, B or C
5260 Crows Landing Road	1954	A Minimal Traditional style residence constructed of concrete block which does not meet NRHP Criterion A, B or C.
5300 Crows Landing Road	1952	A Minimal Traditional style residence that does not meet NRHP Criterion A, B or C.
624 E. Grayson Road	1958	A Ranch style residence, currently undergoing renovation, which lacks integrity of design, setting, materials, workmanship and feeling.
130 W. Grayson Road	1955	A Minimal Traditional style residence which does not meet NRHP Criterion A, B or C
607 W. Grayson Road	1950	Due to alterations, the original style of this residence is not obvious although it may have been a Minimal Traditional style residence; it lacks integrity.
613 W. Grayson Road	1960	A Ranch style residence which does not meet NRHP Criterion A, B or C
401 Kaiser Road	1963	A Ranch style residence that lacks integrity due to changes to the windows, footprint and exterior material
224 San Joaquin Avenue	1950	A Minimal Traditional style residence which does not meet NRHP Criterion A, B or C.
242 San Joaquin Avenue	1963	A prefabricated residence that does not meet NRHP Criterion A, B or C.
318 San Joaquin Avenue	1948	A Minimal Traditional style residence which does not meet NRHP Criterion A, B or C.
330 San Joaquin Avenue	1946	A prefabricated residence which does not meet NRHP Criterion A, B or C
430 San Joaquin Avenue	1950	A Minimal Traditional style residence which lacks integrity, due to additions and changes to the original footprint, window replacement and exterior stucco material.
518 San Joaquin Avenue	1945	A Minimal Traditional style residence which lacks integrity due to window replacement, changes to the exterior and roof material and to the porch.
542 San Joaquin Avenue	1951	A Minimal Traditional style residence, lacking integrity due to window replacement, changes to exterior material and porch alterations.

5.3.2.5.4 Native American Consultation

CH2M HILL contacted the Native American Heritage Commission (NAHC) by letter on January 14, 2009, to request information about traditional cultural properties such as cemeteries and sacred places in the A2PP APE. The NAHC responded on January 16, 2009, with a list of Native Americans interested in consulting on development projects. Each of these individuals/groups was contacted by letter on February 2, 2009. Letters were also emailed and faxed where possible on February 2, 2009. Follow up phone calls were made on March 12, 2009. Jay Johnson of the Southern Sierra Miwuk Nation was reached and voiced no concerns with the project. Messages were left with all groups or individuals with a valid phone number. Les James of the Southern Sierra Miwuk Nation requested an additional copy of the original letter and maps on March 24, 2009 and the letter was sent. No additional response from Mr. James has been received at the time of printing. No additional responses from other parties contacted have been received. Copies of the letters are provided in Appendix 5.3A. Also, a detailed summary table of the results of consultations with the individual Native American organizations on the NAHC contact list is included in Appendix 5.3A.

The NAHC record search of the Sacred Lands file did not indicate the presence of Native American cultural resources in the immediate A2PP APE. The record search conducted at the CHRIS Central California Information Center also did not indicate the presence of Native American traditional cultural properties.

5.3.2.5.5 Local Historical Societies

Additionally, CH2M HILL contacted historical societies in the Ceres and Modesto areas, including the Ceres Historical Society, the McHenry Museum and Historical Society, and the Turlock Historical Society on February 4, 2009. As of this printing, no responses have been received regarding historic structures from the societies. A summary of these contacts is provided as part of Appendix 5.3A.

5.3.3 Environmental Analysis

This section describes the environmental impacts of the A2PP construction and operation. CH2M HILL conducted a complete cultural survey of the A2PP APE.

5.3.3.1 Significance Criteria

Appendix G, Environmental Checklist Form of the CEQA guidelines, addresses significance criteria with respect to cultural resources (Public Resources Code Sections 21000 et seq.). Appendix G (V)(a, b, d) indicates that an impact would be significant if the project will have the following effects:

- Cause a substantial adverse change in the significance of a historical resource
- Cause a substantial adverse change in the significance of an archaeological resource
- Disturb any human remains, including those interred outside of formal cemeteries

Project investigations included archival research; review of all cultural resource investigation reports within the A2PP; contacts with all other interested agencies, Native American groups, and historical societies; and a complete field survey. These studies indicated no significant prehistoric or historic archaeological remains, or traditional cultural properties in the A2PP APE. Therefore, no impacts to cultural resources are expected.

5.3.3.2 Construction Impacts

The literature search and pedestrian inventories did not locate any significant prehistoric or historic sites within the A2PP site and linear facilities.

The literature search and pedestrian inventory have shown no significant prehistoric or historic sites located within the A2PP APE. An approximately 4-mile segment of the UPRR, historically the TSRR, runs adjacent to the reconductored 69-kV sub-transmission line. Although this segment was recorded during the archaeological survey for the A2PP APE, this segment is not eligible to the NRHP and is not considered a significant resource. The integrity of the section of the UPRR/TSRR located in the A2PP APE was compromised by a series of improvements to enable larger locomotives and heavier freight cars running at higher speeds to run on the WPRR. The improvements included heavier rails, new ties, and improving the rail beds to permit higher tonnage (Bridges, 1983). This segment no longer retains the essential physical features that made up its character or appearance during its period of importance from 1905 to 1909, and although the rail line is located in its original footprint, the original historic materials and workmanship are no longer present or able to convey important associations with local historic events (National Park Service, 1991). Additionally, previously recorded discontinuous sections of the UPRR (formerly the TSRR) recorded elsewhere in Stanislaus County are also not considered eligible. Finally, the segment of the UPRR (formerly the TSRR), which has been recorded, is currently in use and the reconducting of the 69-kV sub-transmission line will not interfere with this use and therefore will not impact the railroad segment.

Both natural gas pipeline alternatives cross several historic laterals and two historic drains of the TID. These canals will be crossed through the use of a trenchless construction method such as jack and bore. While these canals are more than 100 years old, as with all of TID's lined canals, routine maintenance is an ongoing activity needed to maintain water flows, and repair and improvement is commonplace. None of the TID canal system laterals or either of the TID drains appear to meet the criteria for listing in the NRHP and each canal segment and drain was evaluated in accordance with Section 15064.5 (a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code, and none meets any of the significance criteria as outlined in these guidelines. Lastly, there are no known cemeteries or human remains interred outside of formal cemeteries in the A2PP APE or linear facilities that project construction might disturb. Therefore, the project is unlikely to have an adverse effect on significant historical or archaeological sites (that are eligible for listing in the NRHP or CRHR).

It is unlikely, due to the low number of archaeological resources in the A2PP APE, that the project would encounter buried intact cultural resources that have not previously been disturbed or destroyed in sediments near the ground surface. However, some limited potential does exist for intact cultural resources to be discovered in soils below the plow zone. With the incorporation of mitigation described in Section 5.3.5, construction impacts to cultural resources will be less than significant.

5.3.3.3 Operation Impacts

No ground disturbance would be required during project operation; therefore, impacts to cultural resources are not anticipated during A2PP operation. Maintenance of project

facilities will not cause any effects outside of the initial construction area of impact. No significant impacts to cultural resources will result from operations.

5.3.4 Cumulative Effects

A cumulative impact refers to a proposed project's incremental effect together with other closely related past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the proposed project (Public Resources Code Section 21083; California Code of Regulations., Title 14, Sections 15064(h), 15065(c), 15130, and 15355). Cumulative projects are described in detail in Section 5.6, Land Use. Although environmental analyses for most of these projects have not been completed at the time this AFC was prepared, standard mitigation measures exist to reduce impacts to cultural resources to a less-than-significant level, and it is anticipated that impacts to cultural resources from the cumulative projects, if any, would be mitigated to a less-than-significant level. The project is unlikely, therefore, to have impacts that would combine cumulatively with other closely related past, present, and reasonably foreseeable future projects. With the incorporation of mitigation described in Section 5.3.5, the project will not contribute to a cumulatively considerable impact to cultural resources.

5.3.5 Mitigation Measures

Although significant archaeological and historical sites were not found during the survey for the A2PP plant site, laydown areas, and associated linear features, it is possible that subsurface construction could encounter buried archaeological remains. For this reason, the A2PP will include measures to mitigate any potential adverse impacts that could occur if there were an inadvertent discovery of buried cultural resources. These measures include, but are not limited to: (1) designation of a CRS to investigate any cultural resources finds made during construction, (2) implementation of a construction worker training program, (3) monitoring during initial clearing of the power plant site and excavation at the plant site, (4) procedures for halting construction in the event that there is an inadvertent discovery of archaeological deposits or human remains, (5) procedures for evaluating an inadvertent archaeological discovery, and (6) procedures to mitigate adverse impacts on any inadvertent archaeological discovery determined significant.

Once the A2PP is operational, it is anticipated that no additional disturbance will occur at the A2PP plant site, laydown area, or associated linear features.

5.3.5.1 Designated Cultural Resources Specialist

TID will retain a designated CRS who will be available during the earth-disturbing portion of the A2PP construction to inspect and evaluate any finds of buried archaeological resources that might occur during the construction phase. If archaeological remains are discovered during construction, the CRS, in conjunction with the construction superintendent and environmental compliance manager, will make certain that construction activity stops in the immediate vicinity of the find until the find can be evaluated. The CRS will inspect the find and evaluate its potential significance in consultation with the CEC compliance project manager (CPM). The CRS will make a recommendation as to the significance of the find and any measures that would mitigate adverse impacts of construction on a significant find.

The CRS will meet the minimum qualifications for Principal Investigator on federal projects under the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation. The CRS will be qualified, in addition to site detection, to evaluate the significance of the deposits, consult with regulatory agencies, and plan site evaluation and mitigation activities.

5.3.5.2 Construction Worker Training

TID will prepare a construction worker sensitivity training program to ensure implementation of procedures to follow in the event that cultural resources are discovered during construction. This videotaped training will be provided to each construction worker as part of their environmental, health, and safety training. The training will include photographs of various types of historic and prehistoric artifacts and will describe the specific steps that will be taken in the event of an unanticipated discovery of cultural material, including human remains. It will explain the importance of, and legal basis for, the protection of significant archaeological resources. The training will also be presented in the form of a written brochure.

5.3.5.3 Monitoring

TID will retain a qualified archaeologist to monitor excavations during the project's construction phase, including geotechnical testing activities prior to construction that have the potential to impact previously undisturbed soils that may be sensitive for cultural resources. If archaeological material is observed by the monitoring archaeologist, ground-disturbing activity will be halted in the vicinity of the find so that its significance (CRHR eligibility) can be determined. If evaluated as significant, mitigation measures (avoidance or data recovery) will be developed in consultation with the CPM.

5.3.5.4 Emergency Discovery

If the archaeological monitor, construction staff, or others identify archaeological resources during construction, they will immediately notify the CRS and the site superintendent, who will halt construction in the immediate vicinity of the find, if necessary. The archaeological monitor or CRS will use flagging tape, rope, or some other means as necessary to delineate the area of the find within which construction will halt. This area will include the excavation trench from which the archaeological finds came and any piles of dirt or rock spoil from that area. Construction will not occur within the delineated find area until the CRS, in consultation with the CPM, can inspect and evaluate the find.

5.3.5.5 Site Recording and Evaluation

The CRS will follow accepted professional standards in recording any find and will submit the standard Department of Parks and Recreation historic site form (Form DPR 523) and location information to the CHRIS Central California Information Center.

If the CRS determines that the find is not significant and the CPM concurs, construction will proceed without further delay. If the CRS determines that further information is needed to determine whether the find is significant, the designated CRS will, in consultation with the CPM, prepare a plan and a timetable for evaluating the find.

5.3.5.6 Mitigation Planning

If the CRS and CPM determine that the find is significant, the CRS will prepare and conduct a mitigation plan in accordance with state guidelines. This plan will emphasize the avoidance, if possible, of significant archaeological resources. If avoidance is not possible, recovery of a sample of the deposit from which archaeologists can define scientific data to address archaeological research questions will be considered an effective mitigation measure for damage to or destruction of the deposit.

The mitigation program, if necessary, will be carried out as soon as possible to avoid construction delays. Construction will resume at the site as soon as the field data collection phase of any data recovery efforts is completed. The CRS will verify the completion of field data collection by letter to the project owner and the CPM so that they can authorize construction to resume.

5.3.5.7 Curation

The CRS will arrange for curation of archaeological materials deemed appropriate for curation collected during an archaeological data recovery mitigation program. Curation will be performed at a qualified curation facility meeting the standards of the California Office of Historic Preservation. The CRS will submit field notes, stratigraphic drawings, and other materials developed as part of the data recovery/mitigation program to the curation facility along with the archaeological collection, in accordance with the mitigation plan.

5.3.5.8 Report of Findings

If a data recovery program is planned and implemented during construction as a mitigation measure, the CRS will prepare a detailed scientific report summarizing results of the excavations to recover data from an archaeological site. This report will describe the site soils and stratigraphy, describe and analyze artifacts and other materials recovered, and draw scientific conclusions regarding the results of the excavations. This report will be submitted to the curation facility with the collection.

5.3.5.9 Inadvertent Discovery of Human Burials

If human remains are found during construction, project officials are required by the California Health and Safety Code (Section 7050.5) to contact the Stanislaus County Coroner. If the Coroner determines that the find is Native American, he or she must contact the NAHC. The NAHC, as required by the Public Resources Code (Section 5097.98) determines and notifies the Most Likely Descendant with a request to inspect the burial and make recommendations for treatment or disposal.

5.3.6 Laws, Ordinances, Regulations and Standards

Among the local LORS discussed in this section are certain ordinances, plans, or policies of the City of Ceres, Stanislaus County, and the State of California. Federal LORS are not applicable because the project is not a federal undertaking (federal ownership, funding, or permit). A summary of applicable LORS is provided in Table 5.3-4.

TABLE 5.3-4
Laws, Ordinances, Regulations, and Standards for Cultural Resources

Law, Ordinance, Regulation, or Standard	Requirements/Applicability	Administering Agency	AFC Section Explaining Conformance
State			
California Environment Quality Act Guidelines	Project construction may encounter archaeological and/or historical resources	CEC	Section 5.3.5
Health and Safety Code Section 7050.5	Construction may encounter Native American graves; coroner calls the NAHC	State of California	Section 5.3.5.9
Public Resources Code Section 5097.98	Construction may encounter Native American graves; NAHC assigns Most Likely Descendant	State of California	Section 5.3.5.9
Public Resources Code Section 5097.5/5097.9	Would apply only if some project land were acquired by the state (currently no state land)	State of California	Section 5.3.5
Local			
City of Ceres 1997 General Plan, Chapter 5, Recreational and Cultural Resources	Sets policies to preserve historically and archaeologically significant structures, sites, districts, and artifacts	City of Ceres	Section 5.3.8.2
Stanislaus County General Plan Chapter 3, Conservation/Open Space Element (October 1994)	Sets policies to preserve historically and archaeologically significant structures, sites, districts, and artifacts	Stanislaus County	Section 5.3.8.2

5.3.6.1 State LORS

CEQA requires review to determine if a project will have a significant effect on archaeological sites or a property of historic or cultural significance to a community or ethnic group eligible for inclusion in the CRHR (CEQA Guidelines). CEQA equates a substantial adverse change in the significance of a historical resource with a significant effect on the environment (Section 21084.1 of the Public Resources Code) and defines substantial adverse change as demolition, destruction, relocation, or alteration that would impair historical significance (Section 5020.1).

Section 21084.1 stipulates that any resource listed in, or eligible for listing in, the CRHR⁶ is presumed to be historically or culturally significant.⁷

Resources listed in a local historic register or deemed significant in a historical resource survey (as provided under Section 5024.1g) are presumed historically or culturally significant unless the preponderance of evidence demonstrates they are not.

A resource that is not listed in or determined to be eligible for listing in the CRHR, is not included in a local register of historic resources, nor deemed significant in a historical resource survey, may nonetheless be historically significant (Section 21084.1; see Section 21098.1).

CEQA requires a Lead Agency to identify and examine environmental effects that may result in significant adverse effects. Where a project may adversely affect a unique archaeological resource,⁸ Section 21083.2 requires the Lead Agency to treat that effect as a significant environmental effect and prepare an environmental impact report. When an archaeological resource is listed in or is eligible to be listed in the CRHR, Section 21084.1 requires that any substantial adverse effect to that resource be considered a significant environmental effect. Sections 21083.2 and 21084.1 operate independently to ensure that potential effects on archaeological resources are considered as part of a project's environmental analysis. Either of these benchmarks may indicate that a project may have a potential adverse effect on archaeological resources.

Other state-level requirements for cultural resources management appear in the California Public Resources Code Chapter 1.7, Section 5097.5 (Archaeological, Paleontological, and Historical Sites), and Chapter 1.75, beginning at Section 5097.9 (Native American Historical, Cultural, and Sacred Sites) for lands owned by the state or a state agency.

The disposition of Native American burials is governed by Section 7050.5 of the California Health and Safety Code and Sections 5097.94 and 5097.98 of the Public Resources Code, and falls within the jurisdiction of the NAHC.

If human remains are discovered, the County Coroner must be notified within 48 hours and there should be no further disturbance to the site where the remains were found. If the coroner determines the remains to be Native American, the coroner is responsible for

⁶ The CRHR is a listing of "...those properties, which are to be protected from substantial adverse change." Any resource eligible for listing in the California Register is also to be considered under CEQA.

⁷ A historical resource may be listed in the CRHR if it meets one or more of the following criteria: "(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, or represents the work of a master or possesses high artistic values; or (4) has yielded or has the potential to yield information important in prehistory or history (...of the local area, California or the nation)" (Public Resources Code §5024.1, Title 14 CCR, Section 4852). Automatic CRHR listings include NRHP-listed and determined eligible historic properties (either by the Keeper of the NRHP or through a consensus determination on a project review), State Historical Landmarks from number 770 onward, and Points of Historical Interest nominated from January 1998 onward. Landmarks prior to 770 and Points of Historical Interest may be listed through an action of the State Historical Resources Commission.

⁸ Public Resources Code 21083.2 (g) defines a unique archaeological resource to be: An archaeological artifact, object, or site, about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria: (1) contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information; (2) has a special and particular quality such as being the oldest of its type or the best available example of its type; or (3) is directly associated with a scientifically recognized important prehistoric or historic event or person.

contacting the NAHC within 24 hours. The NAHC, pursuant to Section 5097.98, will immediately notify those persons it believes to be most likely descended from the deceased Native American so they can inspect the burial site and make recommendations for treatment or disposition. The A2PP project will comply with these requirements related to cultural resources through the implementation of the mitigation measures described previously in Section 5.3.5.

5.3.6.2 Local LORS

The City of Ceres General Plan (1997) includes Chapter 5, Recreational and Cultural Resources Element. Goal 5.B under this section states the City will “preserve and maintain sites, structures, and landscapes that serve as significant, visible reminders of the city’s social, architectural, and agricultural history.” Policies affecting cultural resources under this section state the City will “assist property owners in seeking registration of historic structures and sites as State Historic Landmarks or listing on the National Register of Historic Places,” “encourage the preservation, maintenance, and adaptive reuse of existing historic buildings in the Redevelopment Areas and other areas of the Planning Area in order to prevent demolition and disrepair,” “encourage the preservation of buildings of local historic importance in the Downtown and surrounding areas,” “encourage relocation of reusable historic buildings as a means of historic preservation,” and “continue to implement the Historic Building Code for historic properties.” Goal 5.C under this section states the City will “protect Ceres’ Native American heritage.” Policies affecting cultural resources under this section state the City will “refer development proposals that may adversely affect archaeological sites to the California Archaeological Inventory at California State University, Stanislaus” and “shall not knowingly approve any public or private project that may adversely affect an archaeological site without first consulting the California Archaeological Inventory, conducting a site evaluation as may be indicated, and attempting to mitigate any adverse impacts according to the recommendations of a qualified archaeologist”. The A2PP project will comply with these requirements related to cultural resources through the implementation of the mitigation measures previously described in Section 5.3.5.

The Stanislaus County General Plan (October 1994) Chapter 3 (Conservation/Open Space Element) presents Goal Eight (Preserve areas of national, state, regional, and local historical importance). Goal Eight defines its purview as:

Landmarks of historical consequence not only include old schoolhouses and covered bridges, but also such sites as Native American burial grounds, cemeteries, pottery, rock carvings, and rock paintings. Normally, “sensitive” areas are often located near natural watercourses, springs or ponds, or on elevated ground. However, due to the silt build-up in the valley and the meandering of rivers, archaeological and historical sites may be found in unsuspected areas.

Goal Eight lists six Implementation Measures, which are included below. Specifically, numbers 3 through 6 directly apply to the A2PP. This completed cultural resources inventory for the A2PP complies with these four implementation measures:

1. The County shall continue to utilize the Historical Site (HS) zone in Knight's Ferry and La Grange to protect the historical character of the communities. Responsible Departments: *Planning Department, Planning Commission, Board of Supervisors.*
2. The County shall seek input from the Knight's Ferry Municipal Advisory Council concerning any development proposals in the HS zone in Knight's Ferry. Responsible Departments: *Planning Department, Historical Sub-Committee of the Planning Commission, Planning Commission, Board of Supervisors.*
3. The County shall work with the County Historical Society and other organizations and interested individuals to study, identify, and inventory archaeological resources and historical sites, structures, buildings, and objects. Responsible Departments: *Parks and Recreation.*
4. The County will cooperate with the State Historical Preservation Officer to identify and nominate historical structures, objects, buildings, and sites for inclusion under the Historic Preservation Act. Responsible Department: *Parks and Recreation.*
5. The County shall utilize the California Environmental Quality Act (CEQA) process to protect archaeological or historical resources. Most discretionary projects require review for compliance with CEQA. As part of this review, potential impacts must be identified and mitigated. Responsible Departments: *Planning Department, Parks and Recreation, Planning Commission, Board of Supervisors.*
6. The County shall make referrals to the Office of Historic Preservation and the Central California Information Center as required to meet CEQA requirements. Responsible Department: *Planning Department.*

5.3.7 Agencies and Agency Contacts

Table 5.3-5 lists the agencies involved in cultural resources management for the project and a contact person at each agency. These agencies include the NAHC and, for federal undertakings, the California Office of Historic Preservation.

TABLE 5.3-5
Agency Contacts for Cultural Resources

Issue	Agency	Contact
Native American traditional cultural properties	Native American Heritage Commission	Katy Sanchez Associate Governmental Program Analyst Native American Heritage Commission 915 Capitol Mall, Room 364 Sacramento, CA 95814 (916) 653-4082

TABLE 5.3-5
Agency Contacts for Cultural Resources

Issue	Agency	Contact
Federal agency NHPA Section 106 compliance	California Department of Parks and Recreation Office of Historic Preservation	Milford Wayne Donaldson State Historic Preservation Officer 1416 9th Street, Room 1442, Sacramento, CA 95814 (916) 653-6624

5.3.8 Permits and Permit Schedule

Other than certification by the CEC, no state, federal, or local permits are required by the project for the management of cultural resources. Consultation with the State Historic Preservation Officer and Advisory Council on Historic Preservation would be required under Section 106 of the NHPA if, for example, as the result of a later project change, the project were to become a federal undertaking and significant cultural resources could be affected by the project.

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