

## 8.3 Cultural Resources

This section of the Application for Certification (AFC) for the Pacific Gas and Electric Company (PG&E) Humboldt Bay Repowering Project (HBRP) analyzes the project's potential effects on cultural resources. It provides a brief background of the project area (prehistory, ethnography and history); discusses the results of a records search from the North Coastal Information Center of the California Historical Resources Information System (CHRIS); summarizes the contacts made with the California Native American Heritage Commission regarding Traditional Cultural Properties and correspondence with local tribes, individuals and the local historical society; discusses the methods and results of the archaeological field survey of the project area; reports on the cultural resources identified within the project area with a discussion of their potential significance and the potential effects of the project on the resources; and presents applicable laws, ordinances, regulations and standards (LORS) along with agency contacts, permit requirements and schedules.

### 8.3.1 Affected Environment

#### 8.3.1.1 Regional Prehistory

Much of the archaeological research in the northwest coastal region has centered on explaining the order of entry of the diverse groups present in this small area (Fredrickson 1984:477). In all, speakers of at least 11 dialects representing three major linguistic groupings (Algic superfamily, Athabaskan family, and Hokan stock) resided along the coast and immediate interior, and shared enough similarities culturally to be grouped by Kroeber (1925) into a single cultural subregion.

Whistler (1979), a linguist, proposed a reconstruction of the sequence of entry of the various groups. In his hypothetical reconstruction, the ancestors of the Karok people were the first to arrive, who maintained a relatively land-bound hunting and gathering strategy. Gould (1966) may have found such a non-marine, non-riverine component in the earliest level of the Point St. George site (CA-DNo-11) north of Crescent City, which dates to ca. 310 BC. His scheme is also bolstered by the presence of inland sites of some antiquity, and the fact that the coastal shell mounds are usually of recent origin (Fredrickson, 1984).

The Wiyot are thought to have entered from the Columbia Plateau ca. 900 AD, and settled directly on the coastal strip. The Yurok, their linguistic relatives, are believed to have arrived some 200 years later, again settling along the coast. They quickly became specialized and efficient marine mammal hunters (Hildebrandt, 1981), and spread along the coast, eventually displacing or assimilating some of the Wiyot population (Fredrickson, 1984).

The settlement of the coast by the Yurok and Wiyot is thought to be archaeologically manifested by the Gunther Pattern, first defined by Loud's (1918) excavation of CA-Hum-67 at Humboldt Bay. This was the former Wiyot village of *Tolowot*, and the site of the Gunther Island massacre in 1860 (Fredrickson 1984). Further excavation was done at the site by an amateur archaeologist. Archaeologists at the University of California at Berkeley were able to analyze some of his collections (Heizer and Elsasser, 1964), and Hughes (1978) performed X-ray fluorescence analysis of the obsidian found at the site.

Other Gunther Pattern sites include CA-Hum-118, a Yurok seasonal camp at Patrick's Point, CA-Hum-169 and CA-Hum-129, historic Yurok villages, and CA-Hum-174, a Yurok ceremonial site on an offshore rock (Fredrickson 1984). Studies at these sites concluded that the Gunther Pattern was a late prehistoric phenomenon likely no more than 1,000 years old. The associated assemblages include *Dentalium* shells, *Haliotis* ornaments, bone and antler harpoon points, Gunther barbed projectile points, flanged and offset pestles, grooved and notched net weights, steatite vessels, various woodworking tools including adzes, wedges, and mauls, baked clay figurines, ground stone zoomorphs, and ceremonial obsidian bifaces (Fredrickson, 1984).

### 8.3.1.2 Regional Ethnography

Prior to the arrival of Euroamericans in the region, the Humboldt Bay area was the home of the Wiyot, an Algonquian-speaking group within the greater northwestern California subculture area defined by Kroeber (1925). Wiyot territory extended eastward from the Pacific to the crest of the first mountain range some 15 to 20 miles inland, bounded on the north by the Little River and to the south by the Bear River (Elsasser, 1978). Their territory thus included Humboldt Bay and many miles of ocean front and the lower courses of rivers, as well as inland redwood forest.

Subsistence practices reflected this habitat, and fishing, mollusk collecting, and sea mammal hunting were all important activities. Much of Wiyot technology revolved around these practices as well, including redwood dugout canoes, weirs, platforms, traps, nets, spears, and harpoons. Although the redwood belt was not prime oak habitat, acorns were an important prehistoric food source, as were berries.

Structures were substantial, rectangular, split-redwood plank affairs often occupied by two or more families. The village often had a single sweathouse. Clothing was made from deerskins and woven rabbitskins, and women's aprons were made from bark, often strung with nuts. Twined basket hats were worn.

The Wiyot were normally patrilineal and patrilocal, organized into tribelets. Status was based upon wealth. The Wiyot partook to some degree in the elaborate Northwest California World Renewal rituals.

The foregoing synthesis is relatively bare since the Wiyot suffered greatly at the hands of the Euroamericans due to the highly favorable coastal area they occupied. In spite of initially good relationships with local fishermen and farmers, a series of atrocities decimated their numbers in the 19th century (Loud, 1918; Merriam, 1925; Heizer and Almquist, 1971). The most famous of these, the massacre at Gunther (or Indian) Island, took place in 1860 during World Renewal ceremonies at the village of *Tuluwat*, and survivors were scattered to the Klamath River, Hoopa, and Smith River Reservations. By 1860, the population had shrunk from 1,000 to 200; by 1910, only 100 full-blooded local people were left.

Today the Wiyot, now more than 500 strong, occupy 88 acres at Table Bluff.

### 8.3.1.3 Archaeological Sensitivity of the Project Area

Based on the distribution of known Wiyot settlements during protohistoric and early historic times, the HBRP site appears to be an archaeologically sensitive area. Most of the ethnographically known Wiyot villages were located along the margins of Humboldt Bay

(Samoa, Eureka, Table Bluff) or lower reaches of the major drainages (such as the Mad and the Eel rivers). Buhne Point is a geographically prominent location within Humboldt Bay, as it provides an elevated point of land with a view to the Bay's opening to the ocean and is easily accessible to tidal channels leading both north and south along Humboldt Bay.

The HBRP site is shown on aerial photographs that pre-date the Humboldt Bay Power Plant to have been a marshy lowland adjacent to Buhne Slough. The driveway to a farmstead bisected the site. This area was covered in 2 to 6 feet of fill when the Humboldt Bay Power Plant was constructed.

### **8.3.1.4 Regional History**

#### **8.3.1.4.1 European Exploration**

Although various explorers including Juan Rodriguez Cabrillo and Sir Francis Drake explored the northwestern California coastline in the 15th century, the first landing did not take place until Juan Francisco de Bodega's vessel stopped at Patrick's Point in 1775 to claim the country for the King of Spain. Thereafter, Trinidad Bay became a port for the fur trade and for Chinese trading expeditions. Humboldt Bay was first accessed by the ship *O'Cain* of the Russian-American Fur Company in 1806, but was basically forgotten and was not revisited until Gold Rush days.

#### **8.3.1.4.2 European Settlement**

Once gold was discovered in the Trinity River in 1848, the search for a suitable port became paramount. A foot party led by a merchant named Dr. Josiah Gregg found Humboldt Bay in December 1849, and the next year a number of expeditions set out from San Francisco to locate the sea entrance. One of these was the expedition of the Laura Virginia Association, which sailed on the ship *Laura Virginia*, in 1850, found the harbor, and founded Warnersville as the first town on Humboldt Bay. The town's promoters laid out a town site stretching along 3 to 4 miles of shoreline, including Buhne Point, where the Humboldt Bay Power Plant is located. Apparently, however, only about 12 houses were ever built, and the town site was soon abandoned during the late 1800s (PG&E, 2003)

The influx of miners and settlers quickly caused hostile relations to arise with the resident Native American population. By 1853, Fort Humboldt was established, ostensibly to protect settlers' interests. In the years of conflict which followed, particularly after the Indian (Gunther) Island massacre, Fort Humboldt would be the last refuge for Native Americans from a hostile community.

After the Gold Rush, the economy of the area diversified to include farming, shipping, shipbuilding, salmon fishing, and logging. Its remote location, natural beauty, and interesting past have also encouraged increased tourism in recent decades.

#### **8.3.1.4.3 Electrical Industry**

During the early 1900s, the electric demand in Humboldt County increased as a result of the region's growing lumber industry. PG&E acquired Western States Gas and Electric Company's utility system in the Humboldt area in 1910. To meet the growing electric demand, in the 1950s PG&E started planning two oil-burning plants south of Eureka in Field's Landing. This facility was designed to replace the two steam generating plants which it operated in Eureka and would also support a new 115-kV transmission line connecting the Humboldt Bay region to the California electric grid via the Sacramento Valley.

PG&E's Humboldt Bay Power Plant site originally consisted of two fossil fuel plants, oil storage tanks, a 60-kV switchyard, and associated facilities such as a warehouse, fire pump house, office, shop, yard relay building and an intake structure. Unit 1 was completed in 1956 and Unit 2 came into service in 1958. In order to continue to meet electric demand needs, PG&E decided to construct Unit 3 at the Humboldt Bay Power Plant site in 1959. Unit 3 was a small General Electric Boiling Water Nuclear Reactor which began producing electricity in 1963.

In the early 1970s, oil company geologists determined that the Little Salmon Fault was still an active earthquake fault contradicting previous studies conducted prior to Unit 3 construction which indicated the fault was dormant. As a result of this new seismic information, PG&E began plans to retrofit the plant. In 1976, Unit 3 was shut down for routine refueling and seismic retrofit work. The Nuclear Regulatory Commission (NRC) informed PG&E that additional seismic studies would be required prior to gaining their support for restarting the plant. During these new studies, the Three Mile Island nuclear power plant accident occurred. Following the accident, the NRC put all licensing on hold until the nuclear power industry could be reevaluated. This resulted in new standards for all nuclear power plants which required compliance prior to licensing. After analyzing the costs associated with finishing the seismic retrofit and compliance with the new standards, PG&E decided to decommission the plant in 1983. In 1988, Unit 3 entered the SAFSTOR decommissioning status, one of three decommissioning alternatives provided by the NRC. Under SAFSTOR, a nuclear facility is maintained and monitored in a condition that allows radioactivity to decay, after which it is then dismantled. In 1998, PG&E announced it would seek to proceed with dry cast storage and pursued the development of an Independent Spent Fuel Storage Installation (ISFSI) to allow the fuel's removal and eventual dismantling of Unit 3.

### **8.3.1.5 Resource Inventory**

#### **8.3.1.5.1 Record Search Results**

A record search request for the project area was submitted to the North Coastal Information Center of the California Historical Resources Information System at the Yurok Tribal Office in Klamath, California on May 4, 2006. Information was requested for all sites and previous surveys within one mile of the project area. The correspondence and confidential record search results are provided in Appendix 8.3A. This appendix is submitted separately from the AFC under a request for confidentiality.

Results of the record search were received in mid-June 2006. Results indicated that one previously conducted study took place within the project site. This was the cultural resources report conducted on behalf of PG&E for the Independent Spent Fuel Installation project (PAR, 2003). This report documents that Lynn Compas and Glenn Caruso conducted an intensive pedestrian archaeological survey of the alternative locations for the ISFSI dry cask storage area, and a less intensive cursory survey of other portions of the site, in 1999. This survey took place north of Units 1, 2, and 3, but did not include the areas that are planned for HBRP use, including the HBRP laydown area, temporary access road, construction parking area, or power plant site. No archaeological deposits were identified. The report is included in this AFC in Appendix 8.3B (PAR, 2003).

The record search indicated that previously recorded sites are located within 0.5 mile of the project area. These are CA-Hum-79, the ethnographic village of Djorokegochkok, a small village which contained many marked graves; CA-Hum-83, the ethnographic village of Dolawotkok; and CA-Hum-80, known as Norolrok, which was occupied in 1852. Two other sites were recorded within a mile of the project area. These are CA-Hum-81, a Wiyot village site abandoned about a generation before 1850; and CA-Hum-82, the ethnographic village of Tokobidjwotno. Four previous archaeological investigations had been conducted near the project site (Montizambert, 1985; Roop et al., 1995; Sandelin, 1995; and Sullivan and Allan, 1984) with only Sandelin's report mentioning the presence of an archaeological site (CA-Hum-82). In addition, the Information Center checked for sites and eligible properties within the project area based on their records including the *Ethnography & Archaeology of the Wiyot Territory* (Loud, 1918), *Place Names of Humboldt County* (Turner, 1993); the Office of Historic Preservation's California Historic Property Inventory (OHP, 2003a) and the Office of Historic Preservation's California Inventory of Historic Resources (OHP, 2003b). None of these sources indicated the presence of cultural resources at the project site. Ethnographic village site CA-Hum-79 was recorded at a location relatively near the Humboldt Bay Power Plant. Some records have indicated, however, that this site was badly damaged or destroyed by erosion (PG&E, 2003).

As stated above, the HBRP site is shown aerial photographs that pre-date the Humboldt Bay Power Plant to have been a marshy lowland adjacent to Buhne Slough. The driveway to a farmstead bisected the site. The farmstead was removed when the Humboldt Bay Power Plant was constructed during the early 1950s. The area beneath Units 1, 2, and 3 was excavated and leveled, and fill was placed adjacent to Buhne Slough at the HBRP site.

### **Humboldt Bay Power Plant**

The PG&E study for the ISFSI Environmental Report (PAR, 2003; PG&E, 2003) also included an examination of the Humboldt Bay Power Plant in terms of its historic significance. PG&E did not record or evaluate Humboldt Bay Power Plant Units 1 and 2, however, because the ISFSI did not involve any change or impact to these units.

The PG&E report did include an in-depth examination and evaluation of Unit 3, including a detailed context statement, because the ISFSI project would involve Unit 3 facilities. The report determined that Unit 3 was completed in 1963 and so had not reached the age of 50 years (it still has not), a normal requirement for a property to be considered for listing in the National Register of Historic Places (NRHP). The report considered, however, whether or not the property could qualify as an exceptionally important property under NRHP Criterion Consideration G.<sup>1</sup> PG&E found that the property does meet this criterion for exceptional importance for National Register listing under Criterion Consideration G. It found that Unit 3 is exceptionally important and National Register-eligible because of its unique and pioneering place in the history of commercial nuclear power and its highly innovative design and construction techniques. Unit 3 was the second nuclear power plant constructed in California (the General Electric Vallecitos research reactor near Livermore was the first) and the seventh completed in the nation.

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<sup>1</sup> The National Park Service provides guidance for the application of criterion consideration G in its bulletin titled *Guidelines for Evaluating and Nominating Properties that Have Achieved Significance Within the Past Fifty Years* (Sherfy and Luce 1966).

The exceptional significance of Unit 3 stems from the fact that it was the first nuclear power plant in the nation that was proposed and built “based on electrical demand and competitive economics as a profit-making venture, rather than research and development of a new technology (PAR 2003: 48).” The economic feasibility of constructing a nuclear power plant in this portion of California had partly to do with the costs of importing conventional fuels (oil and natural gas), when compared with the costs of transporting nuclear fuel. The economic feasibility of the plant was, furthermore, tied to its very innovative reactor vessel design. PG&E engineers solved the problem of having to house the reactor in an expensive concrete and steel dome by placing it underground in an airtight, sealed container called a pressure suppression system. The container was partly filled with water to suppress steam condensation in case an accident occurred. Its design had several important safety features and became an industry standard.

The construction of the reactor vessel was, furthermore, very innovative. The project engineering and construction team prefabricated the pressure vessel that contained the reactor vessel. They then sunk the pressure-reactor vessel into the ground by taking advantage of the structure’s own massive weight and by using water nozzles to help dig the vessel slowly into the ground, using a “cookie cutter” concept.

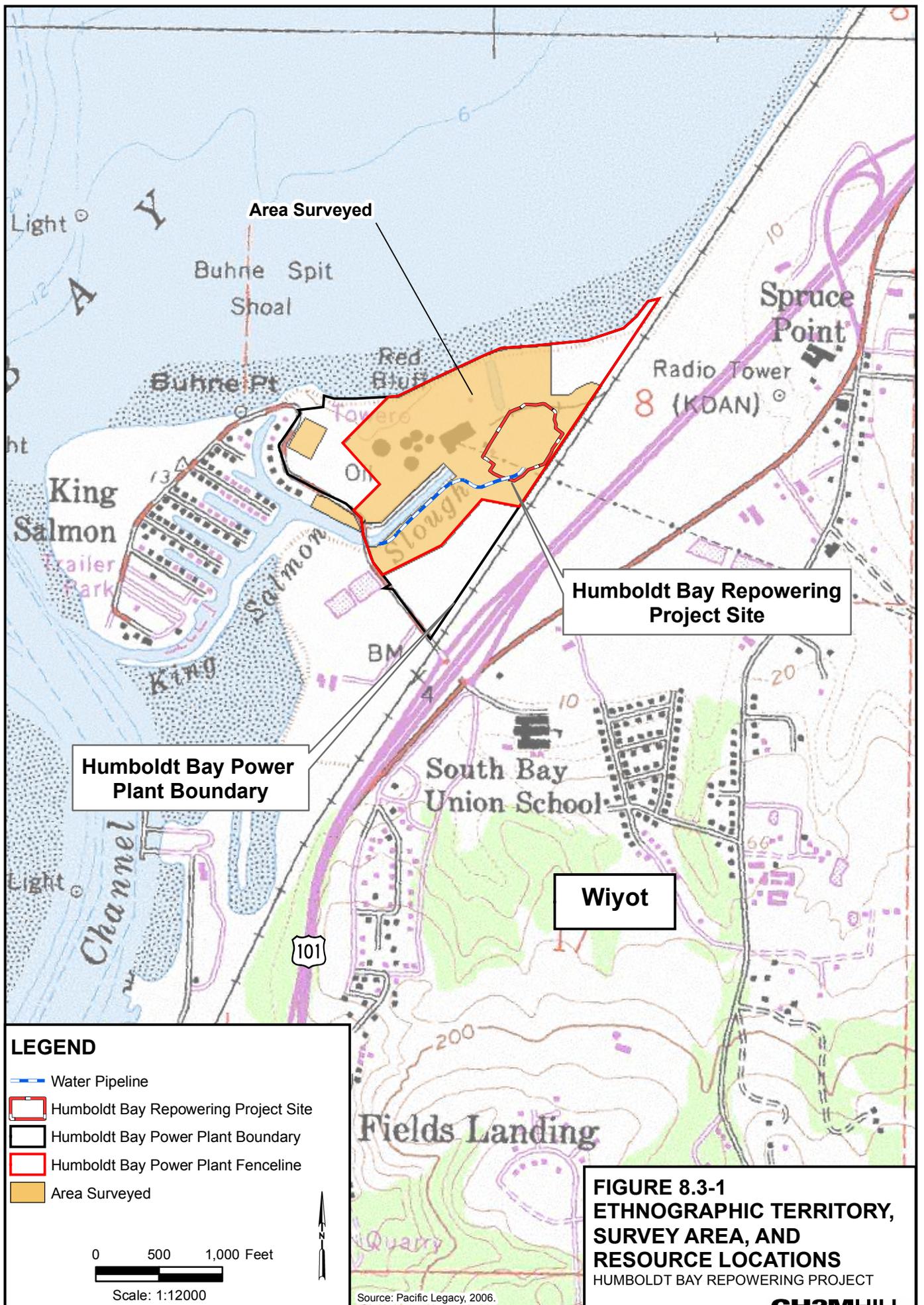
The ISFSI report concluded that, while Unit 3 is clearly a significant historic property, the ISFSI project would have no adverse effect on it. The State Historic Preservation Officer (SHPO) concurred that the ISFSI project would not have an adverse impact on historic properties (OHP, 2005).

#### **8.3.1.5.2 Pedestrian Archaeological Survey**

William Shapiro of Pacific Legacy, Inc. conducted a pedestrian archaeological survey of the project site on April 10, 2006. Mr. Shapiro has an M.A. degree in Anthropology from California State University, Chico; he is a current member of the Register of Professional Archaeologists; has been actively involved in California archaeology and cultural resource management for 27 years; and meets the qualification standards in *Archaeology and Historic Preservation: Secretary of the Interior’s Standards and Guidelines* as an Archaeological Project Supervisor. A resume for Mr. Shapiro is provided in Appendix 8.3C.

The project site was systematically surveyed for the presence of cultural resources (Figure 8.3-1 depicts the areas surveyed). This survey area included the lands immediately adjacent and east of the current power plant facility where the proposed HBRP will be located, the temporary access road on the south side of the intake canal, and two small parcels along King Salmon Avenue proposed for use as temporary construction laydown and/or equipment parking areas.

The surveyed areas were inspected by systematically walking transect intervals spaced 20 meters apart. When vegetation obscured surface visibility, a trowel was used to expose the mineral soil for the presence of prehistoric cultural constituents (i.e., dark stained midden soil, shell fragments, faunal remains, lithic debitage, or historic refuse). The survey did not identify any prehistoric resources or archaeological resources of the historic era.



### 8.3.1.5.3 Buildings and Structures Reconnaissance

The April 10, 2006 field survey included an architectural reconnaissance to determine whether or not there could be significant historic buildings and structures on or immediately adjacent to the project site that the project would affect. Potential effects on such properties could include demolition or alteration of properties on the HBRP site or visual impacts (changes to historic setting) of buildings on adjacent parcels. This reconnaissance determined that there are no significant buildings or structures that are older than 50 years that are located on adjacent parcels to the HBRP. Although there are some structures in the nearby community of King Salmon that are older than 50 years, the HBRP will not be visible from these structures. In addition, these structures have been located near the massive Humboldt Bay Power Plant Unit 1 and 2 structures for approximately 50 years. The addition of the HBRP would have a negligible effect on the setting of any significant buildings or structures in King Salmon. For these reasons, the survey and analysis of buildings and structures in King Salmon was not pursued further.

As stated above, PG&E found Humboldt Bay Power Plant Unit 3 to meet Criterion Consideration G for exceptional significance and that this property is eligible for National Register nomination even though it is less than 50 years old. This study, however, did not include an assessment of Units 1 and 2, because the ISFSI project would not affect them. Units 1 and 2 were completed in 1956 and 1958, respectively, and so are both older than 45 years and would thus be more than 50 years old when the HBRP is completed.

During the architectural field reconnaissance, the Humboldt Bay Power Plant was recorded and given field number Site PL-1. This site includes Units 1 and 2, which date to the late 1950s and Unit 3 which was completed in 1963 and their support buildings and features, including an abandoned railroad spur from the Northwestern Pacific Railroad on the power plant property. A primary record (form DPR-523) for this resource is included in Appendix 8.3D. This record was prepared under the direction of Jessica Feldman, who meets the Secretary of the Interior's Standards and Guidelines qualifications for Architectural Historian. Ms. Feldman's resume is included in Appendix 8.3C.

#### ***PL-1—Humboldt Bay Power Plant***

The Humboldt Bay Power Plant sits on a 143-acre parcel and consists of Units 1 and 2, which are oil- or gas-fired steam generating plants, and Unit 3, a nuclear power plant. Unit 3 is a boiling water reactor nuclear power plant that uses the heat generated by controlled nuclear fission to generate steam that drives a turbine-generator. As mentioned earlier, Unit 3 was the first use of an innovative design that enclosed the reactor vessel within a larger, sealed and water-filled pressure vessel and installed this entire apparatus underground at a maximum depth of more than 60 feet, rather than within an above-ground dome. When constructed, Unit 3 had a 262-foot-tall exhaust stack that was removed after the facility entered SAFSTOR status in 1988. The PG&E ISFSI cultural resources report (PAR, 2003) contains detailed information on the design and history of Unit 3 (see Appendix 8.3B).

Units 1 and 2 are conventional steam boiler power plants. The steam generators are 100-foot-tall structures consisting of boilers and associated piping, which generate steam to drive a steam turbine-generator. The boilers are within a steel lattice structure and the upper floors are partly enclosed. Appurtenant facilities to the units are two large fuel oil storage

tanks; diesel tanks; fire water and distilled water tanks; a 60 kV switchyard; a railroad spur; and office, relay, and storage buildings.

The plant was sited at Buhne Point partly because it is a convenient location for circulating ocean water from Humboldt Bay through the facility for cooling. This design is called once-through cooling, because pumps draw the water into the plant through an intake channel and discharge it after circulating through the power plant condensers to the discharge canal, from which it returns to Humboldt Bay. The intake canal is a tidally-influenced channel that was built as an extension of the pre-existing boat channel in the community of King Salmon to the west. The discharge canal extends from the site north to an underwater outfall.

In an evaluation of the South Bay Power Plant in San Diego County, JRP Historical Consulting (2006) provides a thoroughly researched history and context statement for conventional steam plants in California like Units 1 and 2. They note that steam turbine technology, initially developed as an offshoot of the conventional steam engine in the late 1800s, continued to develop and improve until the 1950s. PG&E and other California utilities began building steam-electric plants during the 1920s and 1930s and continued doing so through the 1960s. Steam plants gained popularity in comparison with hydroelectric plants after World War II. These plants were built near load centers, near a water supply, and near fuel supplies and mostly, but not entirely, in coastal locations. Humboldt Units 1 and 2 fit this pattern. According to the California Energy Commission, there are currently 34 steam-electric power plants in California. The JRP report is provided in Appendix 8.3B.

Within this context of the development of steam-electric power, Units 1 and 2 do not appear to hold a position of historical significance and do not appear to meet the criteria for listing on the National Register or California Register. They were constructed during the heyday of the coastal steam-electric plant (1950-1970) and are very similar to many other plants of this type that were constructed during this period. Their design is the standard “semi-outdoor” type, with the open steel boiler framework and roofing and cladding in the upper stories and the remainder exposed.

Units 1 and 2 do have one unusual and interesting design feature; their oversized steam drums. These large drums permit them to shift from minimum load (~ 5 MW) to full load in a matter of seconds. This design feature was deemed necessary for these units because of the need to support electric load in the Humboldt load pocket in case of a sudden transmission line or natural gas failure. In this somewhat isolated area that is served by the Humboldt Bay Power Plant, a few small generators, and a 115 kV transmission line from outside the area, sudden transmission failure is a constant concern of electrical reliability planners. The natural gas and electrical transmission lines that serve this area run through rugged terrain and are susceptible to landslides, wind, and wildfire. Because of this enlarged steam drum design, Units 1 and 2 are of engineering interest, but this features does not necessarily make them historically significant. There is no indication that the oversized steam drum design was subsequently exported to other locations or that this design feature had important historical consequences. In every other way, Units 1 and 2 appear to be somewhat generic, steam-electric power plants of the type characteristic in California and elsewhere after World War II.

In terms of the four National Register Criteria, the Units do not appear to be associated in a significant way with broad patterns of our history (Criterion A). Although Units 1 and 2 are associated with the advancement and development of electric power production in Humboldt County and California, this association is not of exceptional historical importance, as discussed above. Units 1 and 2 are two among many similar steam-electric plants built during this time period in California to serve a similar purpose. The oversized steam drum design is an interesting feature, but does not appear to qualify this property for special historical significance.

Units 1 and 2 do not appear to be associated with the life of a historically significant person or persons (Criterion B). They also do not embody the distinctive characteristics of a type, period, or method of construction (Criterion C). As utilitarian structures; Units 1 and 2 do not embody significant stylistic features. Similarly, Units 1 and 2 do not appear to have the ability to provide information important in history. Units 1 and 2 are not historic properties in terms of either the National Register or California Register of Historical Resources.

#### **8.3.1.5.4 Native American Correspondence**

The Native American Heritage Commission was contacted on May 4, 2006 to check their Traditional Cultural Property index to determine if such properties are reported within or near the project area. A list of local Native American groups and individuals whom could be contacted for comments and information with regard to the project was also requested. The correspondence regarding Native American concerns is presented in Appendix 8.3E.

#### **8.3.1.5.5 Local Historical Society Consultation**

An inquiry was sent to the Humboldt County Historical Society seeking information in their files with regard to cultural resources, properties and historic information that they may have with regard to the project area. The Humboldt County Historical Society did not have any specific information on the project site, but did provide additional background data on the Fields Landing area. The correspondence with the local historical society is provided in Appendix 8.3F.

### **8.3.2 Environmental Consequences**

This section describes the environmental consequences of proposed HBRP construction and operation.

#### **8.3.2.1 Significance Criteria**

Appendix G, Environmental Checklist Form, of CEQA and, if found to be applicable to this project, Section 106 of the National Historic Preservation Act addresses significance criteria with respect to cultural resources (36 CFR 800.4(c)(1), Public Resources Code Sections 21000 et seq.). Both pieces of legislation indicate that an impact would be significant if the project will:

- 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.

Literature search, pedestrian field inventory, and architectural reconnaissance did not result in the discovery of any significant prehistoric or historic archaeological remains, traditional

cultural properties, or any historically or architecturally significant buildings in the project's area of potential effects.

### **8.3.2.2 Construction Impacts**

#### **8.3.2.2.1 Archaeological Resources**

No archaeological resources were identified during the field survey of the project site, construction laydown areas, temporary access road, and construction worker parking area. Furthermore, no previously recorded archaeological sites, traditional cultural properties, or cultural resources listed on the NRHP or the California Register of Historical Properties (CRHP) were identified within or near the project area based on record search results and Native American correspondence. Therefore, potential impacts to cultural resources are not expected from the construction or operation of the HBRP.

#### **8.3.2.2.2 Historic Buildings and Structures**

One historical buildings and structure complex was identified and recorded within the project area during the field survey. Site PL-1 consists of the existing PG&E Humboldt Bay Power Plant Units 1, 2, and 3.

##### ***Site PL-1—Humboldt Bay Power Plant***

Site PL-1 consists of the existing PG&E Humboldt Bay Power Plant with its two fossil fuel units (Unit 1 and 2) built in the late 1950s, its nuclear reactor (Unit 3) constructed in the early 1960s, and the power plant's other support buildings and facilities which date from the 1950s to present.

##### **Unit 3**

As stated above, PG&E's report prepared for the ISFSI project concluded that Unit 3 appears to be exceptionally important under Criterion A for its role in the development and ongoing research of the nuclear power industry at the national level and also appears to meet Criterion C, Consideration G, for its precedent-setting engineering design (PAR, 2003). However, the ISFSI project was found not to have an adverse effect on the Unit 3 facility as the removal of the spent fuel to an outside facility would not change the design elements of the unit and as a result would not affect the overall integrity of the resource.

Key aspects of Unit 3's significance are summarized in the following statement from the ISFSI Environmental report as follows:

Unit 3 appears exceptionally significant (Criterion Consideration G) in the history of the commercial nuclear power industry and appears to meet Criteria A and C of the NRHP at a national level. Unit 3 has had few modifications since it went on line in 1963 and retains integrity of location, setting, design, workmanship, feeling, and association. Its period of significance stretches from 1961 when the unusual construction methods and design elements used in the pressure suppression chamber began, until 1984 when Unit 3 was placed in a SAFSTOR status. Under Criterion A, Unit 3 is important for its association with the development of nuclear power on a national level. Under Criterion C, certain elements of the unit, such as the pressure suppression chamber and the spent fuel pool, are key factors of its importance, while other equipment (e.g., the control room, turbine, reactor) are contributing features of overall plant design (PG&E 2003:2.9-7).

The ISFSI report was sent to the SHPO's office by the NRC on October 3, 2005. A request for concurrence with a finding of no adverse effect was made along with a statement that more research on the NRHP eligibility of Unit 3 would be conducted prior to its dismantlement. As a result, SHPO concurred with a finding of no adverse effect and agreed that more research could be conducted in a letter dated October 25, 2006. Since a request for concurrence with the NRHP eligibility of Unit 3 was not made, SHPO did not comment.

Unit 3 appears to be a historic property. The HBRP would cause a significant adverse impact requiring mitigation if it would "cause a substantial adverse change in the significance" of this historic resource. To do so, HBRP construction or operation would have to affect some aspect of this property's historical integrity that contributes to its significance. This property is significant for its engineering design and also because of its place in the history of commercial nuclear power.

The HBRP would have two effects on this property: (1) it would result in the removal of appurtenant structures to the existing plant including one transmission tower, a storage building, a paint and sandblasting building, and possibly part of the facility's railroad spur and (2) it would have a visual effect by introducing a new element in the existing plant's viewshed. The HBRP would also make an electrical connection with the Humboldt Bay Power Plant Substation.

Of the buildings to be demolished for the HBRP, the paint and sandblasting building is a recent structure (ca. 1990s) that does not contribute to Unit 3's significance for this reason. The 115 kV transmission tower is clearly associated with Unit 3, as the 115-kV system was tied directly to Unit 3's steam turbine. The storage building is not clearly associated with Units 1, 2 or 3, but appears to serve the entire complex.

The storage building is a simple concrete structure located in the open yard adjacent to the on-site substation to the south of Unit 3 and appears in a 1955 aerial photograph and was therefore likely constructed initially to serve Units 1 and 2. The structure has a recent metal addition on the northeast side. The 115 kV transmission tower is a standard steel-lattice tower. Each of these structures lacks distinguishing features and only the 115 kV transmission tower is tied exclusively to Humboldt Bay Power Plant Unit 3.

The HBRP would not diminish the significance of Unit 3, because the 115 kV tower and storage building which are currently on the HBRP site and were associated with the operation of Unit 3 do not contribute in an important way to the significance of Unit 3 either as an innovative example of engineering or as a landmark in the history of commercial nuclear power. No mitigation measures are proposed for these structures before demolition, other than recording them on form DPR-523, with accompanying photographs (see Appendix 8.3D, which includes a primary record for the entire site, a district record, and building-structure-object records for the storage building, transmission tower, and railroad spur).

Constructing the HBRP adjacent to Unit 3 would introduce a new element to its surroundings and viewshed and would diminish its integrity of feeling and association as a 1960s vintage power plant. This would not be a significant adverse effect, however, because Unit 3 does not draw its significance mainly from the historical integrity of its surroundings

and setting. Its significance instead stems from its having been the first commercial nuclear reactor in California and its innovative engineering design.

In summary, Unit 3 appears to be a historic property and the HBRP will cause various changes to Unit 3. These effects, however would not be adverse, and would not diminish the properties of Unit 3 that makes it eligible for National Register listing.

### **Units 1 and 2**

One result of the HBRP is that Units 1 and 2 will cease operation. Demolition of the units is not part of the HBRP project, however, although it will take place at some future time, partly in conjunction with the decommissioning under the auspices of the Nuclear Regulatory Commission. In the meantime, PG&E plans to maintain these units. The HBRP will therefore not contribute directly to the demolition of Units 1 and 2. The HBRP will contribute indirectly to the demolition of Units 1 and 2 by providing a new power supply for the region and thus making it possible to retire these units.

Units 1 and 2 were built in the late 1950s and were not included in the ISFSI assessment because they were less than 50 years of age at the time of assessment. Units 1 and 2 do not appear to meet the criteria for listing in the National Register of Historic Places or California Register of Historical Resources, as discussed above.

Demolition of the storage building that is apparently associated with the early operation of Units 1 and 2 would not, in any case, detract significantly from the integrity of these properties (or of the entire plant site, considered as a district). The storage building is a generic, utilitarian storage building that has been altered significantly by the addition of a recent, metal shed along its northeastern wall. Similarly, the HBRP's connection with the on-site Humboldt Bay Power Plant switchyard would not involve the demolition or significant alteration of the switchyard.

#### **8.3.2.3 Operation Impacts**

Operation of the HBRP would have no effect on cultural resources.

#### **8.3.3 Cumulative Impacts**

Because the HBRP would not affect known significant cultural resources, it would not be likely to cause significant cumulative impacts. If construction were to encounter a large, stratified, buried prehistoric archaeological site or discrete filled-in historic period features, the possibility of cumulative impacts would arise because such sites might be highly significant, and many have been destroyed or damaged by agricultural activity and/or commercial/industrial/residential development in the project vicinity. Any potential impact to an unknown site would be minimized by a stop-work procedure if a site were uncovered. No impacts to historic buildings or structures are expected to occur.

#### **8.3.4 Mitigation Measures**

Although significant archaeological and historical sites were not found during project field survey, it is possible that subsurface construction could encounter buried archaeological remains. Appropriate measures would include a requirement that construction stop if cultural resources are inadvertently discovered. These measures include: (1) retaining a Designated Cultural Resources Specialist (CRS) to be on-call to investigate any cultural

resources finds made during construction, (2) monitoring during initial clearing, grubbing, trenching, and excavation for foundations, (3) implementing a construction worker training program, (4) providing procedures for halting construction in the event that there is an inadvertent discovery of archaeological deposits or human remains, (5) providing procedures for evaluating an inadvertent archaeological discovery; and (6) providing procedures to mitigate adverse impacts on any inadvertent archaeological discovery determined to be significant.

#### **8.3.4.1 Designated Cultural Resources Specialist**

The project owner will retain a Designated CRS who will be available during the entire construction period to inspect and evaluate any finds of buried archaeological resources that might occur during construction. If there is a discovery of archaeological remains during construction, the CRS, in conjunction with the Construction Superintendent and Environmental Compliance Manager, will make certain that all 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 CEC staff and the CEC Compliance Project Manager (CPM). The CRS will inspect the find and evaluate its potential significance, in consultation with the project owner's Cultural Resource Specialist, CEC staff and the CEC 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 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.

#### **8.3.4.2 Construction Worker Training**

Implementation of a construction worker training program would ensure implementation of CEC-approved stop-construction measures in the event that cultural resources are discovered during construction. The designated CRS will conduct a worker education session for construction supervisory personnel to explain the importance of, and legal basis for, the protection of significant archaeological resources. 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, to include human remains. The training will also be recorded on DVD and copies of the training brochure will be distributed to all construction personnel.

#### **8.3.4.3 Monitoring**

Although the project site is located in an area of relatively high archaeological sensitivity, most of the HBRP construction site is located on land that was a low lying area adjacent to Buhne Slough at the time of Humboldt Bay Power Plant construction. Various geotechnical studies, including the preliminary geotechnical study conducted for the HBRP, have shown that from 2 to 6 feet of fill was placed over the HBRP site as part of land leveling activities. It is therefore possible that buried archaeological resources are located beneath the HBRP site. It is also possible that excavation for HBRP foundations and pipeline trenches will encounter only recent fill with no archaeological potential. For this reason, a qualified

monitor should observe initial clearing and grading and also excavation for the main foundations. After initial grading the CRS should make a reassessment of the need for monitoring, based on any findings to that point as well as on a geological assessment of the depth of the fill layer.

#### **8.3.4.4 Emergency Discovery**

If the 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 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 as well as any piles of dirt or rock spoil from that area. Construction will not take place within the delineated find area until the CRS, in consultation with the project owner's Cultural Resource Specialist and CEC staff, can inspect and evaluate the find.

If human remains are encountered during construction, project officials are required by law (California Health and Safety Code 7050.5) to contact the county coroner. If the coroner determines that the find is Native American, the coroner is required to contact the NAHC. The NAHC is required (Public Resources Code 5097.98) to determine the Most Likely Descendant (MLD), notify that person or persons and request that they inspect the burial and make recommendations for treatment or disposal.

#### **8.3.4.5 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 locational information to the Eastern Information Center of CHRIS.

If the CRS determines that the find is not significant, construction will proceed. If the CRS determines that further information is needed to determine whether the find is significant, the CEC and the SHPO will be notified, and the CRS will prepare a plan and a timetable for evaluating the find, in consultation with the project owner's Cultural Resource Specialist, CEC and SHPO.

#### **8.3.4.6 Mitigation Planning**

If the CRS and the consulting parties (project owner's Cultural Resource Specialist, CEC staff and SHPO) determine that the find is significant, they will prepare and carry out a mitigation plan in accordance with state and federal 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 CEC CPM so that the project owner and the CEC CPM can authorize resuming construction.

### 8.3.4.7 Curation

The CRS in consultation with the project owner's Cultural Resource Specialist, will arrange for curation of archaeological materials collected during the monitoring and mitigation program at a qualified curation facility, that is, a recognized, nonprofit archaeological repository with a permanent curator. The CRS will submit field notes, stratigraphic drawings, and other materials developed as part of the archaeological excavation program to the curation facility along with the archaeological collection.

### 8.3.4.8 Report of Findings

If buried archaeological deposits are found during construction, the CRS will prepare a report summarizing the monitoring and archaeological investigatory program implemented to evaluate the find or to recover data from an archaeological site as a mitigation measure. This report will describe the site soils and stratigraphy, describe and analyze artifacts and other materials recovered, and explain the site's significance. This report will be submitted to the project owner, North Coastal Information Center, and the curation facility with the collection.

## 8.3.5 Laws, Ordinances, Regulations, and Standards

Federal, state, and local LORS applicable to cultural resources are summarized in Table 8.3-1

**TABLE 8.3-1**  
Applicable Cultural Resource Laws, Ordinances, Regulations, and Standards

Law, Ordinance, Regulation, or Standard	Applicability	Project Conformity?
National Historic Preservation Act Section 106 and 36 CFR 800	Applies if the project would require a federal permit (such as a Clean Water Act Section 404 permit). It is the responsibility of the lead federal agency to take into account the effect of issuing the permit on properties eligible for listing in the National Register of Historic Places.	Yes. Historic properties (Unit 3) are present, but the project's effects would not be adverse.
California Environment Quality Act Guidelines	Project construction may encounter archaeological resources	Yes
Coastal Act Section 30244	Mitigate impacts to archeological resources	Yes
Health and Safety Code Section 7050.5	Construction may encounter Native American graves, Coroner calls NAHC	Yes
Public Resources Code Section 5097.98	Construction may encounter Native American graves, NAHC assigns MLD	Yes
Public Resources Code Section 5097.5/5097.9	Would apply only if some project land were acquired by the state (currently no state land)	Yes
Humboldt County General Plan, Eureka Community Plan, Section 3500	Project construction may encounter archaeological resources	Yes

### 8.3.5.1 Federal LORS

Federal protection for significant archaeological resources would apply to the HBRP if any construction or other related project impacts take place on federally managed lands, or if certain federal entitlements were required. Because the project is likely to require a permit under Section 404 of the Clean Water Act, the project would be considered a federal undertaking.

The NHPA requires federal agencies to take into consideration the effects of their undertakings on historic properties, defined as properties (buildings, districts, sites, structures, objects) that meet the criteria for listing in the National Register of Historic Places, found at 36 CFR Part 60. The agencies' responsibilities under the NHPA are described in Section 106 of the Act and in federal regulations at 36 CFR Par 800. Federal agencies are enjoined to (1) determine an undertaking's area of potential effects on historic properties, (2) inventory potential historic properties within the area of potential effects, (3) evaluate properties identified to determine their eligibility for listing in the National Register, (4) assess the potential effects of the undertaking on properties determined to meet National Register criteria, and (5) if the effects would be adverse, avoid or mitigate those effects.

In this case, the U.S. Army Corps of Engineers (USACE) would likely be the federal agency with Section 106 compliance responsibilities. As standard practice, the USACE requires applicants for Clean Water Act Section 404 permits to submit a report of cultural resources inventory and evaluations conducted on the property for which the permit is required. As the lead federal agency, it is the responsibility of the USACE to conduct the SHPO consultation regarding the permit undertaking's effects on historic properties.

### 8.3.5.2 State of California Statutes

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 CRHR<sup>2</sup> is presumed to be historically or culturally significant.<sup>3</sup>

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2 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.

3 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.

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,<sup>4</sup> Section 21083.2 requires the Lead Agency to treat that effect as a significant environmental effect and prepare an Environmental Impact Report (EIR). 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 remains are determined by the coroner to be Native American, the Coroner is responsible for contacting the NAHC within 24 hours. The NAHC, pursuant to Section 5097.98, will immediately notify those persons it believes to be the MLD of the deceased Native American so they can inspect the burial site and make recommendations for treatment or disposal.

In addition, the California Coastal Act Section 30244 applies to this project. It is replicated in Section 3.18 of the Humboldt Bay Area Plan of the Humboldt County Local Coastal Plan. This section states:

Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

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4 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.

If the State Historic Preservation Officer were to determine that the HBRP would adversely impact archaeological resources, reasonable mitigation measures would be implemented.

### 8.3.5.3 Humboldt County LORS

The County of Humboldt General Plan, Eureka Community Plan, includes, in Section 3500, plans and policies for the preservation and protection of cultural resources. This document identifies and documents significant historic and prehistoric resources, and provides for the preservation of representative and worthy examples. In addition, the Plan recognizes the value of historic and prehistoric resources, and assesses current and proposed land uses for impacts upon those resources. The plan goal (Section 3510) is to “protect designated and potential cultural resources.” Policies (Section 3520) include a policy that “the protection, restoration, and preservation of historic buildings is encouraged...” and that historic buildings are defined as “those sites on and/or eligible for County, State, or Federal Historic (sic) registers.”

### 8.3.6 Involved Agencies and Agency Contacts

Table 8.3-2 lists the state agencies involved in cultural resources management for the project and a contact person at each agency. These agencies include the NAHC, the California Office of Historic Preservation (OHP), and the USACE, the lead agency under Section 106 of the NHPA.

**TABLE 8.3-2**  
Agency Contacts

Issue	Contact	Title	Telephone
Federal agency NHPA Section 106 compliance	Milford Wayne Donaldson Office of Historic Preservation	State Historic Preservation Officer	(916) 653-6624
Federal agency NHPA Section 106 Compliance	Case officer for Section 404 permit (to be assigned when permit applied for)	US Army Corps of Engineers, San Francisco District	(415) 977-8460
Native American traditional cultural properties	Ms. Debbie Pilas-Treadway	Associate Governmental Program Analyst	(916) 653-4038

### 8.3.7 Permits Required and 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 SHPO and the Advisory Council on Historic Preservation will be required under Section 106 of the NHPA in conjunction with the Clean Water Act Section 404 permit to dredge or fill wetlands and waters of the United States. Under Section 106 and 36 CFR Part 800, however, it is the responsibility of the lead federal agency to conduct the consultation. In this case, compliance would be achieved through the Section 404 permitting process. The schedule for Section 106 compliance would thus be the same as for the Section 404 permit. PG&E would submit a cultural resources inventory and evaluation report to the USACE along with the Section 404 permit application.

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