

Chapter 7—Cultural Resources

7.1 Introduction

This section describes existing cultural resources in the Project Area. It also describes impacts to cultural resources that could result from construction and operation of the Project. Project construction activities will comply with all applicable federal, state, and local regulatory requirements. Also presented are recommended mitigation measures, when applicable. With implementation of the recommended mitigation measures, construction and operation of the Project are expected to have less-than-significant impacts on cultural resources.

7.1.1 Methodology

7.1.1.1 Literature and Record Surveys

The cultural resources of the Project Area were evaluated by record searches and field surveys.¹ Record searches were conducted at the Northwestern Information Center (NIC) of the California Historical Resources Information System (CHRIS) at Sonoma State University, Rohnert Park (File No. 01-1514). The record and literature review consisted of a comprehensive review of current and historic U.S. Geological Survey (USGS) and other maps encoded with cultural resource information maintained at the NIC. Copies of all cultural resource site inventory forms recorded for sites within a 0.5 - mile radius of the Project route and substation sites considered in this PEA were obtained and reviewed. In addition, several pertinent cultural resource investigation reports (surveys, excavations, etc.) were reviewed to help document the nature and extent of previous cultural resource investigations that have been conducted in the Project Area.

The Native American Heritage Commission (NAHC) was contacted to determine whether sacred lands are present in the Project Area and to obtain a list of local tribal representatives and/or “most likely descendants” to contact pursuant to provisions of Section 5097.94 to 5097.98 of the Public Resources Code (PRC). NAHC’s reply indicated that there are no known or recorded sacred lands in the Project Area. Letters soliciting information about culturally sensitive places and offering opportunities for direct consultation with PG&E officials were mailed to ten different Ohlone (Costanoan) individuals or groups on May 13, 2002. PG&E has not received a reply from these groups.

7.1.1.2 Field Surveys

Lands previously surveyed by others and the locations of all known and recorded cultural resource sites were carefully mapped in relation to the area proposed for construction disturbance (i.e., the Areas of Potential Effect [APE]), including the transmission line

¹ Source materials consulted include both the National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR) (CAL/OHP, 2002), the California History Plan (CAL/OHP, 1973), the California Inventory of Historic Resources (CAL/OHP, 1976), California Historical Landmarks (CAL/OHP, 1990), an ethnic sites survey (CAL/OHP, 1988), and California Points of Historical Interest (CAL/OHP, 1992). Several local planning documents were also reviewed for potential conflicts between locally known/recorded resources and proposed PG&E Project features.

corridor, substations, lay-down and cable-pulling staging areas, and access roads. Known and recorded sites within or adjacent to the APE were revisited where possible to verify their location and potential spatial conflict with proposed Project components.

Previously unsurveyed lands in the APE were systematically surveyed by three qualified archaeologists using close interval transects (not exceeding 15 meters apart) along proposed transmission line routes and at substation sites. Field methods followed California Office of Historic Preservation guidelines published as *Archaeological Resource Management Reports (ARM): Recommended Contents and Format* and CEQA Guidelines, Appendices G and K. Pedestrian field surveys of all accessible Project impact footprints (i.e., substations, towers, transmission line corridors, laydown and cable pulling staging areas, and access roads) were conducted between April 22 and 24, 2002 by James C. Bard, Robin D. McClintock, and James J. Sharpe, and again on July 11 and 12 by Mr. Sharpe. The surveys employed a meandering 200 foot-wide inspection corridor (100 feet from centerline). Variations in ground conditions required use of an opportunistic survey strategy.

CH2M HILL's surveys produced no evidence of surface or subsurface archaeological sites in the Project Areas proposed for above-ground and below-ground construction (substations, towers, etc.). Although the proposed Project design incorporates construction footprints that completely avoid physical or indirect impacts to buildings and structures (proximity effects), windshield reconnaissance of urbanized Project segments was conducted to verify that no historic buildings or structures would be affected.

7.1.2 Regulatory Background

CEQA requires a 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. A historical resource for purposes of CEQA compliance is defined as a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR). Historical resources also include those listed in local historic registers that the lead agency determined to be historically significant on the basis of substantial evidence.

When a cultural resource is deemed either historically significant or significant to California for its architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural merit, it may be considered a historical resource, eligible for inclusion in the CRHR. If the resource is not considered historical, it may be assessed to determine whether it meets the criteria of a unique resource as defined in the PRC. The PRC and other state codes include procedures for notification of cultural resources discoveries in addition to restrictions regarding their removal and prohibition of their destruction. These criteria and procedures are included in Appendix C.

Cultural resources that might be present in the Project Area could include the categories described in Table 7-1, identified pursuant to *California Code of Regulations, Title 14, Section 4852*.

TABLE 7-1
Categories of Cultural Resources

Category	Description	Examples
Buildings	Structures created principally to shelter or assist in carrying out any form of human activity. May also refer to a historically and functionally related unit (e.g., courthouse and jail).	Houses, barns, churches, factories, and hotels
Sites	Locations of significant events; prehistoric or historic use, or buildings or structures (both intact and not intact); where the location itself possesses historical, cultural, or archaeological value. May not be marked by physical remains if it is the location of a prehistoric or historic event, and if no buildings, structures, or objects marked it at that time.	Trails, designated landscapes, battlefields, habitation sites, Native American ceremonial areas, and locations of petroglyphs and pictographs
Objects	Constructions, primarily artistic or relatively small in scale, that are simply constructed, as opposed to a building or structure. May be moveable by nature or design, but associated with a specific setting or environment. Should be in settings appropriate to their significant historic use, role, or character. Objects that are relocated to a museum are not eligible for listing in the CRHR.	Fountains, monuments, maritime resources, sculptures, and boundary markers
Historic Districts	Unified geographic entities that are defined by precise geographic boundaries and contain a concentration of historic buildings, structures, objects, or sites united historically, culturally, or architecturally. Districts with unusual boundaries require a description of immediate outlying areas to define the edge of the district and to explain to the exclusion of adjoining areas.	--

Cultural and historic preservation programs exist at the county level and are linked with city, state, and federal preservation programs. San Mateo County's 1986 General Plan protects historical resources for their historic, cultural, social, and educational values and for the enjoyment of future generations. San Mateo County follows current CEQA guidelines for cultural and historical resource preservation to review development Projects located near identified cultural and historical resources.

7.2 Existing Conditions

The primeval San Francisco Bay (Bay) Area was rich in natural resources that were used abundantly by the prehistoric native populations. Rocks and minerals such as obsidian, cherts, cinnabar, and schist were excellent material for making tools, ornaments, trade goods, and weapons. The diverse habitats, from saltmarshes to redwood forests, supplied a varied and abundant diet to the early populations. The ample resources available in the region permitted growth of large populations (Rice 1994a,b).

As a result of this prehistoric and later historic use, the Project Area is recognized as “archaeologically sensitive,” based on the high potential for encountering cultural and historical resources. The following background information describes the natural, ethnographic, and historical settings, as well as the cultural resources in the Project vicinity.

7.2.1 Natural Setting

The Project Area is situated in the San Francisco Peninsula region, which encompasses the largest estuarine system in California and includes the San Francisco Bay (Bay). Much of the bordering marshland has been reclaimed for urban purposes, after extensive siltation of the region’s waterways from the Gold Rush and landfill Projects.

The Peninsula’s bay front has been altered drastically over the past 15,000 years by the melting of continental glaciers that caused the sea level to rise, shifting local beaches more than 25 kilometers eastward. As a result of this geologic event, the natural Bay environment has undergone almost continuous change during the past 15,000 years. In addition, human adaptations to the estuarine environment evolved when marine waters began invading the Bay less than 8,000 years ago. Therefore, villages and other sites along former shorelines are buried under marine sediments (Moratto 1984).

The Project traverses the full range of Peninsula micro-environments, from former saltmarsh habitats in the Visitacion and Guadalupe Valleys and along the former Bay front in South San Francisco, San Bruno, Millbrae and Burlingame; to wooded uplands in the hills above South San Francisco, San Bruno, Burlingame, Hillsborough, and along the San Andreas Rift Zone. With marine resources located to the west of the Project corridor and bay resources to the east, in addition to its favorable climate, the Project Area offered an excellent geographic location for prehistoric human habitation. Currently, land use is predominately urban and suburban, except along the San Andreas Rift Zone where the Project corridor traverses open parklands and natural areas surrounding the major water reservoirs along Highway 280 and Skyline Boulevard.

7.2.2 Cultural Setting

7.2.2.1 Prehistoric Background

At the turn of the 20th century, U.C. Berkeley researchers identified over 400 individual shellmound sites around the greater Bay. From such spots, Indians exploited fish, shellfish, and sea mammal resources, in addition to terrestrial ecological niches of the margin and foothill uplands that ring the Bay. Archaeologists believe that the population of the prehistoric Bay Area slowly increased from the Early to Late Horizon time periods (3000 B.C. - 1800 A.D.). The population increase is thought to reflect more efficient resource procurement, increased ability to store food at village locations, and increasing political complexity.

Prior to about 5,000 to 7,000 years ago, Indian occupation of the Bay Area was intermittent and sparse. Evidence for early occupation along the bayshores was hidden by rising sea levels from about 15,000 to 7,000 years ago, or was buried under sediments caused by bay marshland infilling along estuary margins from about 7,000 years onward (Moratto 1984). Early occupants concentrated on hunting and gathering plant foods and collecting shellfish.

Archaeologists developed the Central California Taxonomic System (CCTS) to explain local and regional cultural change in prehistoric central California from about 4,500 years ago to the time of European contact (Lillard, Heizer, and Fenenga 1939 and Beardsley 1948). It was recently updated. The CCTS used in conjunction with David A. Fredrickson's updated cultural model adequately explains periods of cultural change. Table 7-2 summarizes characteristics of cultural periods from Fredrickson's (1994) periods model and provides CCTS classification nomenclature. Further descriptions of CCTS classifications appear in Appendix C, in addition to an alternative classification scheme (Chartkoff and Chartkoff 1984).

TABLE 7-2
Hypothesized Characteristics of Cultural Periods in California

Cultural Period	Characteristics
1800 A.D. Upper Emergent Period Phase 2, Late Horizon	Clam disk bead money economy appears. Increasing amounts of goods moving farther. Growth of local specializations relative to production and exchange. Interpenetration of south and central exchange systems.
1500 A.D. Lower Emergent Period Phase 1, Late Horizon	Bow and arrow introduced to replace atlatl and dart; south coast maritime adaptation flowers. Territorial boundaries well established. Evidence of distinctions in social status linked to wealth become increasingly common. Regularized exchanges between groups continue with more material put into the network of exchanges.
1000 A.D. Upper Archaic Period Middle Horizon, Intermediate Cultures	Growth of sociopolitical complexity; development of status distinctions based on wealth. Shell beads gain importance, possibly for both exchange and status. Emergence of group-oriented religious organizations; possible origins of Kuksu religious system at end of period. Greater complexity of exchange systems; evidence of regular, sustained exchanges between groups. Territorial boundaries not firmly established.
500 B.C. Middle Archaic Period Middle Horizon, Intermediate Cultures	Climate more benign. Mortars and pestles, and inferred acorn economy introduced. Hunting important. Diversification of economy; sedentism begins to develop, accompanied by population growth and expansion. Technological and environmental factors provide dominant themes. Changes in exchange or in social relations appear to have little impact.
3000 B.C. Lower Archaic Period Early Horizon, Early San Francisco Bay, Early Milling Stone Cultures	Ancient lakes dry up as a result of climatic changes. Milling stones found in abundance. Plant food emphasis, little hunting. Most artifacts manufactured of local materials; exchange similar to previous period. Little emphasis on wealth. Social unit remains the extended family.
8000 - 6000 B.C. Upper Paleo-Indian Period San Dieguito, Western Clovis	First demonstrated entry and spread of humans into California; lakeside sites with a probable, but not clearly demonstrated, hunting emphasis. No evidence for a developed milling technology, although cultures with such technology may exist in state. Exchange probably ad hoc on one-to-one basis. Social unit (the extended family) not heavily dependent on exchange. Resources acquired by changing habitat.

Cultural materials discovered at the University Village Complex (CA-SMA-77) indicate that the Peninsula region was inhabited between ca. 3500 and 2500 B.C. Excavation and analysis of this site, which consisted of 35 burials with over 3,000 artifacts, showed that the complex is earlier than "Middle Horizon," yet unlike "Early Horizon" deposits, which led excavators to believe that a pre-Costanoan or Early Bay Culture once existed. Two central California traditions (or cultures) probably existed between 1500 and 1000 B.C., as evidenced by

regional differences in technology, artifact style, burial practices, and economic activities. This Early Bay Culture has been substantiated by the discoveries of early human remains in San Francisco, on Stanford lands, and in Sunnyvale (Moratto 1984).

Several later sites, excavated during the 20th century, have revealed more dietary refuse than artifacts. One notable exception is the Filoli Estate site in Redwood City (CA-SMA-125), located about 10 kilometers from the bayshore. This village complex yielded over 4,500 grave offerings associated with 19 burials, dating from about 900 to 1500 A.D. (Moratto 1984). First investigated in 1935, CA-SMA-125 was excavated annually between 1970 and 1976.

7.2.2.2 Ethnographic Background

The aboriginal inhabitants of the region belonged to a group known as the Costanoans (from the Spanish Costanos or “coastal people”) who occupied the area from the central California coast inland to the approximate boundary of the Mount Diablo Range. The term “Costanoan” does not imply a politically unified entity in the area, but rather refers to groups of people who shared similar cultural traits and belonged to the same linguistic family. More than 200 people of partial Costanoan descent are currently estimated to reside in the greater San Francisco Bay Area. These individuals now generally prefer the term *Ohlone* to the anthropologist’s Costanoan (see Galvan 1967/1968 and Levy 1978).

Costanoan belongs to the larger Penutian language family also spoken by other California Indian groups (Shipley 1978 and Broadbent 1972). Costanoan is subdivided into 8 mutually unintelligible languages (Levy 1978) although Kroeber (1925) divided Costanoan territory into 7 dialect areas based on linguistic evidence in Spanish mission records and other sources. Linguistic evidence suggests that the Costanoans moved into the Bay Area ca. A.D. 500 and replaced an earlier, possibly Hokan, population. This putative replacement coincides with the appearance of Late Horizon artifact assemblages. Further details of Costanoan linguistic relationships can be found in Levy 1976.

The Project is situated in the Ramaytush subdivision of the Costanoan, which included much of present-day San Mateo and San Francisco Counties (Levy 1978). Based on Spanish mission records and archaeological data, researchers have estimated a population of 1,400 for the Ramaytush group in 1770 (Levy 1978). Within the Ramaytush area, the Costanoan population was further divided into tribelets. In 1770, these tribelets were politically autonomous groups with from 50-500 individuals and an average population of 200. Tribelet territories, defined by physiographic features, usually had one or more permanent villages surrounded by a number of temporary camps. The camps were used to exploit seasonally available floral and faunal resources (Levy 1978). Appendix C includes a more detailed discussion of the Costanoan tribes that occupied present-day San Mateo County.

The Project corridor traverses the territory of three tribelets: the *lamšín* (Las Pulgas), *salson* (San Matheo), and *šipliškin* (San Bruno). According to Milliken (1983) the *salson* included 7 villages of which 3 were located along the branches of San Mateo Creek and held minimally 30-35 square miles (80 sq. kilometers) of foothill and bayshore land, and perhaps controlled another 8 square miles (20 sq. kilometers) of the upper drainages of contiguous coastal flowing streams. The *šipliškin* occupied what is now San Bruno and the *lamšín* occupied Hillsborough, San Mateo, Belmont, San Carlos and Woodside.

7.2.3 Historical Setting

As with much of the greater Bay Area, recorded history for the Project Area can be divided into three periods: the Spanish Period (1769-1822); the Mexican Period (1822-1848); and the American Period (1848-present), summarized briefly below. (Refer to Appendix C for a detailed history of the three historical periods, including extensive context for many of the historical resources [discussed in Section 7.3] within or adjacent to the proposed route.)

- **Spanish Period.** Beginning in the late 1760s, Spanish explorers settled the San Francisco Peninsula, establishing missions, presidios, pueblos, and ranchos. Spanish settlers had a cataclysmic effect on Costanoan peoples, introducing Christianity, agricultural practices, and disease. Excavations at the southwest corner of El Camino Real and Baldwin/Baywood Avenue confirmed the presence of Hispanic Period cultural material in the vicinity of the Project (Debutz, Drake, and Bonet 1942).
- **Mexican Period.** In the mid-1800s, Mexican policy began stressing individual ownership of the land in California. On the San Francisco peninsula, 18 ranchos were granted from mission lands, some of which were located in the current Project Area (e.g., *Rancho Pulgas*, *San Mateo*, *Buri Buri*, and *Cañada de Guadalupe la Visitacion y Rodeo Viejo*). No roads and/or adobe or *palizada* structures of the Hispanic Period are known to have existed on or adjacent to the proposed Project alignments.
- **American Period.** Beginning in the mid-1800s, the San Francisco area experienced a population explosion, associated with the Gold Rush of 1848. Population increased further with the completion of the transcontinental railroad, smaller local railroads, major roadways, and the development of a prosperous dairy industry. With this growth, new water systems were established that included dams, tunnels, reservoirs, and aqueducts. Water resources in the vicinity of the Project include the Crystal Springs Dam and the Hetch Hetchy system (marked by the Pulgas Water Temple). Other cultural resources from the American Period that are within or adjacent to the Project Area are identified in subsection 7.2.4. The context of these resources is discussed in greater detail in Appendix C.

7.2.4 Cultural Resources in the Project Area

Table 7-3 lists the cultural resources found in the vicinity of the Project Area. These resources are “within or adjacent to” the Project Area, i.e., the resource is within 200 feet of a Project component.

As part of the field-reconnaissance survey, a concrete arch bridge was noted on SFPUC lands. The bridge is located within Segment 1 of the proposed Project. This bridge is located within Segment 1. Access to the bridge was prevented by overgrowth. The bridge will be further evaluated during pre-construction survey.

TABLE 7-3
Cultural Resources in the Vicinity of the Project Area

Segment	Resources Identified	Description
1 – Overhead Portion^a	CA-SMA-23	Prehistoric archaeological site (shellmound) in the foothills west of San Bruno. Thirty-three burials or cremations were discovered during archaeological excavations in January 1942.
1 – Underground Portion	None	--
2	C-295	Unrecorded Twelve-Mile House on Mission Road and Grand Avenue in South San Francisco. Twelve-Mile House was a way station for stagecoaches built in 1860.
	CA-SMA-299 (also registered as P-41-301 and P-41-409)	Prehistoric archaeological site (shell midden) on both sides of Colma Creek (Bocek 1989). The site is believed to have been completely destroyed by creek channelization, railroad tracks, and other construction and by its systematic mining (of the midden itself) as “Colma Loam” which was sold as gardening soil between the 1930s and 1950s (Bocek, 1989 and Rice, 1994a,b). During construction of the BART SFO extension and relocation of Colma Creek channel, no resources were found.
	CA-SMA-355 (also registered as P-41-495)	Prehistoric archaeological site (shell midden) containing abundant burnt and unburnt marine shell fragments and bone fragments; burnt and fire-cracked rock, charcoal, chert flakes, and ground stone fragments. The midden deposit appears to be more than 2 meters thick and the site is entirely buried under 150 cm to 7.3 m of natural and artificial overburden. Boundaries are unclear (Clark, 2000a, b).
	P-41-381	Mid-twentieth century “Cape Revival” style suburban house, built in 1948, located at 123 Francisco Drive (Fee and Brack, 1993a).
	P-41-382	Early-twentieth century “Queen Anne” style cottage, built ca. 1900-1915, located at 1281 Mission Road (Giberti and Brack, 1993).
	P-41-383	Early-to-mid-twentieth century suburban house, built in 1930, with Period revival details located at 1289 Mission Road (Fee and Brack, 1993b).
	P-41-390	Stone railroad bridge, constructed in 1863, on the Southern Pacific Railroad (SPRR) line immediately north of Spruce Avenue in South San Francisco. One of ten arched stone bridges built along the route between San Francisco and San Jose. As a result of its historic association as of the original San Francisco-San Jose Railroad, later a link in the transcontinental railroad, the high quality of its construction, and its rarity and distinctiveness, it appears to qualify for inclusion in the NRHP. This bridge was taken apart and rebuilt by BART during the recent construction of the BART extension.

TABLE 7-3
Cultural Resources in the Vicinity of the Project Area

Segment	Resources Identified	Description
3	P-41-400	Italian Cemetery at 540 F Street, Colma. Appears to qualify for inclusion in the NRHP as a state-level district and as an excellent and rare example of a traditional European cemetery, whose period of significance is the late-eighteenth and early-nineteenth centuries (Shoup, et al. 1993a).
	P-41-401	Eternal Home Cemetery, one of four Jewish cemeteries in the Project Area, at 1051 El Camino Real, Colma. Could be considered a contributing element to a single historic district encompassing all the historic cemeteries of Colma (Shoup, et al. 1993b).
	P-41-402	Salem Memorial Park, one of four Jewish cemeteries in the Project Area, at 1171 El Camino Real, Colma. Could be considered a contributing element of a single historic district encompassing all the historic cemeteries of Colma (Shoup, et al. 1993c).
	P-41-403	Home of Peace Cemetery/Hills of Eternity Memorial Park, one of four Jewish cemeteries in the Project Area, at 1299 El Camino Real, Colma. These two cemeteries abut one another. Developed in tandem, both appear to qualify for the NRHP as a state-level district whose period of significance is the late-eighteenth and early-nineteenth centuries (Shoup, et al. 1993d).
	P-41-404	Cypress Lawn Memorial Park at 1370 El Camino Real, Colma. Appears to qualify for the NRHP as a state-level district. Contains the finest collection of funerary art and architecture in Northern California. Period of significance is 1892 through the WW II era. (Shoup, et al. 1993e).
	P-41-405	Holy Cross Cemetery at 1500 Mission Road, Colma. Appears to qualify for the NRHP as a state-level district. Includes a collection of historic buildings, gravemarkers, and mausolea.
4	None	--
5	CA-SMA-326H (also registered as P-41-000314)	Historic archaeological site at the southwest corner of Bayshore Highway and Main Street. Consists of the concrete foundations of an old dairy barn and associated outbuildings (Desgrandchamp, 1990). No historic archaeological remains associated with this dairy would be expected to occur in the Segment 5 construction corridor. The existing concrete foundations lie more than 100 feet from the edge of Main Street.
Construction Staging/Cable Pulling Sites	None	--

^a The historic Filoli Estate, included in the National Trust for Historic Preservation, is within the vicinity of the overhead portion of Segment 1. Because the Project will not affect the use of the historic park to the public, it is not discussed or analyzed further.

7.3 Potential Impacts

7.3.1 Significance Criteria and Summary of Potential Impacts

The criteria for determining potential impacts to cultural resources from the Project were developed from the CEQA initial study checklist. Table 7-4 describes the significance criteria for the construction and operations phases of the Project, and indicates the level of significance of potential impacts.

TABLE 7-4
Significance Criteria and Summary of Potential Impacts for Cultural Resources

Significance Criteria	Level of Significance				Impact Identified for: Operation Phase Construction Phase
	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact	
<p>Threshold of Significance: The Project would result in damage to, the disruption of, or adversely affect a property that is listed in the California Register of Historical Resources (CRHR) or a local register of historic resources as per Section 5020.1 of the Public Resources Code.</p> <p>Findings: See Section 4.999.3</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> Operation <input type="checkbox"/> Construction
<p>Threshold of Significance: The Project would cause damage to, disrupt, or adversely affect an important prehistoric or historic archaeological resource such that its integrity could be compromised or eligibility for future listing on the CRHR diminished.</p> <p>Findings: See Section 4.999.3.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Operation <input checked="" type="checkbox"/> Construction
<p>Threshold of Significance: The Project would cause damage to or diminish the significance of an important historic resource such that its integrity could be compromised or eligibility for future listing on the CRHR diminish.</p> <p>Findings: See Section 4.999.3.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> Operation <input type="checkbox"/> Construction

7.3.2 Construction Impacts

Ground-disturbing construction activities associated with transmission line tower and substation construction have the highest potential to directly impact cultural resources in the Project Area by disturbing both surface and subsurface soils. Impacts could result from trenching for both underground cable placement and underground utility connections associated with modifications at the substations; excavation associated with transmission line tower placement and anchors; grading for access roads; tower assembly areas; tower erection; and any other activities associated with placing the transmission line in service involving ground disturbance. Conductor stringing and reconductoring have a low to moderate potential to affect cultural resources depending on the construction techniques used (e.g., truck or helicopter).

Subsurface and surface disturbance could result in the loss of integrity of cultural deposits, loss of information, and the alteration of a site setting. Potential indirect impacts, primarily vandalism, could result from increased access to and use of the general area during both construction and operation. There is also the potential for inadvertent discoveries of buried archaeological materials during construction. Archaeological High-Probability Areas in the vicinity of the Project include: the area between Castenada Drive and Mile Post 13 on El Camino Real (*vicinity of CA-SMA-74, -76, -90, -91, and -300*); El Camino Real from Mile Post 13 to San Bruno Avenue (*vicinity of CA-SMA-74, -300, 172H, and C-305*); Skyline Boulevard between Mile Posts 13 and 14 (*vicinity of CA-SMA-23*); all of Segments 2, 3, and 4 because of several known and recorded archaeological sites in the vicinity and the high potential for unrecorded sites; and Segment 5 from Mile Post 4 to Martin Substation because of the high potential for prehistoric archaeological sites associated with the former Bay shore.

The following text summarizes potential impacts by segment:

- **Segment 1.** None of the existing cultural resources identified in subsection 7.2.4 would be affected by either construction for or operation of the proposed Project. If previously undetected archaeological sites are present beneath the proposed disturbance footprints of the preferred route, underground construction could adversely affect such sites.
- **Segment 2.** With the possible exception of CA-SMA-299 (believed to be completely destroyed) and P-41-390 (the cut stone bridge), none of the existing cultural resources identified in subsection 7.2.4 would be affected by either construction for or operation of the proposed Project. If previously undetected archaeological deposits associated with CA-SMA-299 are present beneath the proposed disturbance footprints of the Project route, underground construction could adversely affect such deposits.
- **Segment 3.** None of the existing cultural resources identified in subsection 7.2.4 would be affected by either construction for or operation of the proposed Project. If previously undetected archaeological sites are present beneath the proposed disturbance footprints of the preferred route, underground construction could adversely affect such sites.
- **Segment 4.** No cultural resources are recorded within or adjacent to Segment 4. If previously undetected archaeological sites are present beneath the proposed disturbance footprints of the preferred route, underground construction could adversely affect such sites.

- **Segment 5.** None of the existing cultural resources identified in subsection 7.2.4 would be affected by either construction for or operation of the proposed Project. If previously undetected archaeological sites are present beneath the proposed disturbance footprints of the preferred route, underground construction could adversely affect such sites.
- **Construction Lay-Down/Cable-Pulling Sites.** No cultural resources are recorded within or adjacent to construction lay-down and/or cable-pulling staging areas. As discussed above, a reconnaissance survey for the helicopter staging areas to be identified in the future will be conducted during pre-construction survey. If previously undetected archaeological sites are present beneath the proposed disturbance footprints of the laydown or staging areas, underground construction could adversely affect such sites.

For the potential impacts identified, mitigation measures are recommended in subsection 7.4. Implementation of the mitigation measures recommended would reduce the potential impacts of the Project on cultural resources to a less-than-significant level.

Impact 7.1: Potential Effect On Resource in Segment 2. The construction of the underground transmission line, including the excavation and installation of the concrete duct bank, in a portion of Segment 2 (see above) could affect remaining archaeological deposits associated with prehistoric archaeological site CA-SMA-299 (shell midden).

Implementation of Mitigation Measures 7.1, 7.2 and 7.3, including treating this Project location as an Environmentally Sensitive Area (see Mitigation Measure 4.1), would reduce the potential impacts to the prehistoric archaeological site CA-SMA-299 to a less-than-significant level.

Impact 7.2: Inadvertent Impacts to Recorded, Reported, Known Resources. Inadvertent impacts to recorded, reported, and known cultural resources identified in or adjacent to the Project could occur during construction of the Project. Construction operations could inadvertently affect known cultural resources within or adjacent to the Project alignment if such resources are not properly protected from inadvertent disturbance by construction equipment (i.e., encroachment into ESAs).

Implementation of Mitigation Measures 7.1, 7.2, 7.3, (described above) and 7.4 would reduce potential inadvertent impacts to recorded, reported, and known cultural resources identified in or adjacent to the Project Area to a less-than-significant level.

Impact 7.3: Inadvertent Impacts to Unrecorded Resources. Previously unrecorded cultural resources could be discovered during ground-disturbing construction operations. Construction operations in areas of native soil, particularly near flowing water sources and former lagoons/marshy areas, could result in the inadvertent exposure of significant buried prehistoric or historic cultural materials. Table 7-5 defines these resources and provides examples of the specific material associated with them.

Implementation of Mitigation Measures 7.1, 7.2, 7.3, and 7.4 would reduce potential inadvertent impacts to unrecorded cultural resources identified in or adjacent to the Project area to a less-than-significant level.

TABLE 7-5
Significant Prehistoric and Historic Resources

Significant Resource	Features/Artifacts
<p>Prehistoric. Includes human burials, features, or other clusters of finds made, modified, or used by Native American peoples in the past. The prehistoric and protohistoric indicators of prior cultural occupation by Native Americans include artifacts and human bone, as well as soil discoloration, shell, animal bone, sandstone cobbles, ashy areas, and baked or vitrified clays.</p>	<ul style="list-style-type: none"> • Human bone – either isolated or intact burials. • Habitation (occupation or ceremonial structures as interpreted from rock rings/features, distinct ground depressions, differences in compaction [e.g., house floors]). • Artifacts, including chipped stone objects such as projectile points and bifaces; ground stone artifacts such as manos, metates, mortars, pestles, grinding stones, pitted hammerstones; and, shell and bone artifacts including ornaments and beads. • Various features and samples including hearths (fire-cracked rock; baked and vitrified clay), artifact caches, faunal and shellfish remains (which permit dietary reconstruction), distinctive changes in soil stratigraphy indicative of prehistoric activities. • Isolated artifacts.
<p>Historic. Includes finds from the late-eighteenth through mid-twentieth centuries.</p>	<ul style="list-style-type: none"> • Structural remains or portions of foundations (bricks, cobbles/boulders, stocked field stone, postholes, etc.). • Trash pits, privies, wells, and associated artifacts. • Isolated artifacts or isolated clusters of manufactured artifacts (e.g., glass bottles, metal cans, manufactured wood items, etc.). • Human remains.
<p>Cultural materials. Includes both artifacts and structures that can be attributed to Hispanic, Asian, and other ethnic or racial groups.</p>	<ul style="list-style-type: none"> • Structural remains • Trash pits • Privies

7.3.3 Operation Impacts

No impacts to cultural resources are anticipated during regular operation of the transmission lines and substations, including inspection and general maintenance. No historic properties will be affected by the proposed Project operation. No historic buildings or structures will be affected and no known/recorded archaeological sites will be affected.

7.4 Mitigation Measures

7.4.1 Construction Mitigation Measures

Mitigation Measure 7.1: Cultural Resources Treatment Plan (CRTP). PG&E Co. shall develop a Cultural Resources Treatment Plan (CRTP) for High-Probability Areas identified in subsection 7.3.2, including procedures for protection and avoidance of Environmentally Sensitive Areas (ESAs) located within archaeological High-Probability Areas, evaluation and

treatment of the unexpected discovery of cultural resources including Native American burials; detailed reporting requirements by the Project archaeologist; curation of any cultural materials collected during the Project; and requirements to specify that archaeologists and other discipline specialists meet the Professional Qualifications Standards mandated by the California Office of Historic Preservation (OHP).

Current Project design ensures that known and recorded cultural resources will be avoided during construction, and operation and maintenance. Specific protective measures shall be defined in the CRTP to reduce the potential adverse impacts on any presently undetected cultural resources to a less-than-significant level. The CRTP shall be submitted to the CPUC for review and approval at least 30 days before the start of construction.

The CRTP shall define construction procedures for areas near known/recorded cultural sites. Wherever a tower, access road, equipment, etc., must be placed or accessed within 100 feet of a recorded, reported, or known archaeological site eligible or potentially eligible for the CRHR, the site will be flagged on the ground as an ESA (without disclosure of the exact nature of the environmental sensitivity [i.e., the ESA is *not* identified as an archaeological site]). Construction equipment shall then be directed away from the ESA, and construction personnel shall be directed not to enter the ESA. Archaeological monitoring of Project construction will be focused in the immediate vicinity of the designated ESAs.

Mitigation Measure 7.2: Construction Personnel Training. All construction personnel shall be trained regarding the recognition of possible buried cultural remains, including prehistoric and historic resources during construction, prior to the initiation of construction or ground-disturbing activities. PG&E Co. shall complete training for all construction personnel. Training shall inform all construction personnel of the procedures to be followed upon the discovery of archaeological materials, including Native American burials. The following issues shall be addressed in training or in preparation for construction:

- Any excavation contract (or contracts for other activities that may have subsurface soil impacts) shall include clauses that require construction personnel to attend training so they are aware of the potential for inadvertently exposing buried archaeological deposits.
- PG&E Co. shall provide a background briefing for supervisory construction personnel describing the potential for exposing cultural resources, the location of any potential ESA and anticipated procedures to treat unexpected discoveries.
- Upon discovery of potential buried cultural materials, work in the immediate area of the find shall be halted and PG&E Co.'s archaeologist notified. Once the find has been identified, PG&E Co.'s archaeologist will make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the finds are found to be important according to CEQA.

Mitigation Measure 7.3: Archaeological Monitoring. PG&E Co. shall implement archaeological monitoring by a professional archaeologist during subsurface construction disturbance at all locations identified in the CRTP. These locations will include the archaeological High-Probability Areas described above and any ESAs to be designated within these High-Probability Areas. These locations and their protection boundaries will be defined and mapped in the CRTP.

Mitigation Measure 7.4: Pre-Construction Survey. PG&E shall perform pre-construction surveys for any Project Areas not yet surveyed (i.e., new or modified staging areas). Resources discovered during those surveys will be subject to mitigation measures M-7.1 to 7.3.

7.4.2 Operation Mitigation Measures

No impacts to cultural resources are anticipated; therefore, no mitigation measures are necessary.

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