

## 3.5 CULTURAL RESOURCES

### 3.5.1 INTRODUCTION

This section describes existing conditions and potential impacts on cultural and paleontological resources as a result of construction, operation, and maintenance of the project. It presents the methods and results of cultural and paleontological resources studies of the project area. Cultural resources within the project area include 23 archaeological resources and two isolated artifacts, and paleontological resources could occur within certain geologic formations within the project area. The analysis concludes that, with incorporation of the Applicant-Proposed Measures (APMs) described in Section 3.5.4.2, impacts on cultural and paleontological resources will be less than significant. The project's potential effects on cultural and paleontological resources were evaluated using the significance criteria set forth in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The conclusions are summarized in Table 3.5-1 and discussed in more detail in Section 3.5.4. The following summary concerning cultural and paleontological resources is derived from the confidential Cultural Resources Technical Report and Paleontological Resources Technical Report, which will be submitted separately to CPUC staff under Public Utilities Code section 583.

**Table 3.5-1: CEQA Checklist for Cultural and Paleontological Resources**

Would the project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 3.5.2 REGULATORY BACKGROUND AND METHODOLOGY

#### 3.5.2.1 Regulatory Background

##### ***Federal***

##### *National Historic Preservation Act*

The project will likely require a permit from the U.S. Army Corps of Engineers, and therefore, is subject to compliance with Section 106 of the National Historic Preservation Act (54 United

States Code 306108) to address potential impacts to historic properties (resources that are eligible for listing on the National Register of Historic Places [NRHP]).

**State**

California Register of Historical Resources

Under Section 21083.2 of the CEQA, an important archaeological or historical resource is an object, artifact, structure, or site that is listed on, or eligible for listing on, the California Register of Historical Resources (CRHR). Eligible resources are those that can be clearly shown to meet any of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage
2. Is associated with the lives of persons important in our past
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value
4. Has yielded, or may be likely to yield, information important in prehistory or history

Automatic listings include properties that are listed on the National Register of Historic Places. In addition, Points of Historical Interest nominated from January 1998 onward are to be jointly listed as Points of Historical Interest and in the CRHR.

Resources listed in a local historic register or deemed significant in a historical resources survey, as provided under Public Resources Code (PRC) Section 5024.1(g), are presumed to be historically or culturally significant unless the preponderance of evidence demonstrates that they are not. A resource that is not listed on or determined to be ineligible for listing on the CRHR, not included in a local register of historical resources, or not deemed significant in a historical resources survey may nonetheless be historically significant, as determined by the lead agency (PRC Section 21084.1 and Section 21098.1).

Assembly Bill 52

Assembly Bill 52 (AB 52) established that Tribal Cultural Resources (TCRs) must be considered under CEQA and also provided for additional Native American consultation requirements for the Lead Agency. A TCR is a site, feature, place, cultural landscape, sacred place, or object that is considered of cultural value to a California Native American Tribe. A TCR is either:

1. on the CRHR or a local historic register;
2. eligible for the CRHR or a local historic register; or
3. the lead agency determines that the resource meets the register criteria.

A project that has potential to impact a TCR such that it would cause a substantial adverse change constitutes a significant effect on the environment unless mitigation reduces such effects to a less-than-significant level. The Governor's Office of Planning and Research (OPR) must issue revised CEQA Guidelines to incorporate AB 52 requirements by July 1, 2016. However, compliance with the law is required beginning July 1, 2015 (prior to issuance of guidance).

California Health and Safety Code and Public Resources Code

Broad provisions for the protection of Native American cultural resources are contained in the California Health and Safety Code, Division 7, Part 2, Chapter 5 (Sections 8010 through 8030).

Several provisions of the PRC also govern archaeological finds of human remains and associated objects. Procedures are detailed under PRC Section 5097.98 through 5097.996 for actions to be taken whenever Native American remains are discovered. Furthermore, Section 7050.5 of the California Health and Safety Code states that any person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor, except as provided in Section 5097.99 of the PRC. Any person removing human remains without authority of law or written permission of the person or persons having the right to control the remains under PRC Section 7100 has committed a public offense that is punishable by imprisonment.

PRC Chapter 1.7, Section 5097.5/5097.9 (Stats. 1965, c. 1136, p. 2792), entitled Archaeological, Paleontological, and Historical Sites, defines any unauthorized disturbance or removal of a fossil site or remains on public land as a misdemeanor and specifies that state agencies may undertake surveys, excavations, or other operations as necessary on state lands to preserve or record paleontological resources.

**Local**

Background research indicated that no cultural resources designated for local listing are located in the project area. Because the CPUC has exclusive jurisdiction over the siting, design, and construction of the project, the project is not subject to local discretionary land use regulations.

**3.5.2.2 Methodology**

**Cultural Resources**

Background and archival research at the Northwest Information Center (NWIC) of the California Historic Resource Inventory System (CHRIS) was completed, and the Native American Heritage Commission (NAHC) and interested Native American individuals were contacted. In addition, a cultural resources field survey of the project area was completed.

Records Search and Historical Research

NWIC staff performed record searches and provided results to PG&E on March 17, 2011 (DeGeorgey 2011) and December 10, 2012 (Fernandez and Lopez 2014). The NWIC is a repository of all archaeological site records, previously conducted cultural resources investigations, and historic information concerning cultural resources for 16 San Francisco Bay Area counties, including Sonoma County. The purpose of this records search was to compile information pertaining to cultural resource sensitivity within the project's Area of Potential Effects (APE). The records searches covered the area within a 0.25-mile radius of the project, including the locations of previously recorded cultural resources within the project area.

In addition, PG&E's records search included the following sources:

- NWIC base maps, U.S. Geological Survey (USGS) 7.5-minute series topographic quadrangle of Healdsburg, California
- Survey reports and archaeological site records on file that describe previously recorded cultural resources within a 0.25-mile radius of the project area, as described previously
- Available historic maps
- California Inventory of Historic Resources (California Department of Parks and Recreation [CDPR] 1976)
- California Historic Properties Directory (California Office of Historic Preservation 2007, with updates) which combines cultural resources listed on the California Historical Landmarks (CDPR 1996), California Points of Historic Interest (CDPR 1992), and those that are listed in or determined eligible for listing in the NRHP or the CRHR
- Archival research at the California State Library History Room, Government Publications

#### *Native American Consultation*

As part of the consultation process with Native American organizations and individuals, PG&E's project consultant contacted the NAHC by letter on June 8, 2011, with a request for information about sacred lands that may be located within the project area and a list of interested Native American groups and individuals near the project area (DeGeorgey 2011). A search of the Sacred Lands file housed at the NAHC indicated the presence of a Native American cultural resource in the vicinity of the project. In the response dated June 10, 2011, the NAHC also provided a list of local groups and individuals to contact for further information regarding local knowledge of sacred lands. Letters and associated maps were sent on June 10, 2011, to the individuals from these local groups. Follow-up emails were sent on June 29, 2011. Following the addition of new project components, the tribes were again contacted by email (and in some cases by phone and letter) on November 20, 2012 (Fernandez and Lopez 2014). Included in the correspondence were the project description and a project map, with a request that they notify the project consultant if they could provide any information about the project area or if they had concerns about the project. Follow-up emails were sent on September 24, 2015 (Tremaine 2015).

#### *Buried Site Sensitivity*

PG&E's project consultants conducted a geoarchaeological assessment to identify the potential for subsurface archaeological materials. Topography, geology, and soil type were used to distinguish areas characterized by erosional processes from those characterized by depositional processes. The assessment used data available from geological maps (Pratt et al. 2011) and the National Resources Conservation Service Soil Survey Geographic Database.

Examination of geologic and topographic maps indicates that only a few areas exist within the project area where deposits of alluvium occur. These isolated alluvial deposits are situated along active streams such as Wright and Leslie creeks. The majority of the project area is situated

along ridgelines and hill slopes that are considered to have a low possibility for containing buried archaeological resources. In summary, there is a low probability for encountering buried archaeological deposits within the project area. Alluvial fans and streamside terrace deposits present adjacent to Wright Creek and Leslie Creek offer some potential to contain evidence of subsurface archaeological materials.

#### Archaeological Survey

PG&E's project consultants carried out an initial cultural resources pedestrian survey of the project area between June 20 and June 24, 2011 (DeGeorgey 2011). Additional proposed work areas were surveyed between November 14 and 17, 2012 (Fernandez and Lopez 2014), and again between May 8 and 10, 2015 (Tremaine and Lopez 2015). Survey methods for all surveys were based on the topography and ground visibility throughout the project area, and the survey was generally done using parallel transects spaced no more than 15 meters apart. Oddly shaped parcels were surveyed in a zig-zag pattern. In areas of poor surface visibility, animal burrows, road cuts, and other areas of disturbance were used to assess the presence or absence of cultural materials. Where permissible, the surveys covered 150 feet on either side of the power line centerline, and 25 feet on either side of potential access roads and work areas.

#### Archaeological Presence-Absence Testing

On June 18 and 19, 2015, PG&E's project consultants conducted presence-absence testing at archaeological site FF-1, a newly recorded prehistoric resource with sparse scatter of historic debris found during the field survey (Tremaine and Lopez 2015). The purpose was to delineate the extent and nature of the resource within the project impact areas, and to determine whether subsurface cultural materials, including anthropogenic midden soil, were present. One 1-meter by 1-meter unit, four 50-centimeter by 50-centimeter test units, and three augers were excavated in the project area, within the recorded boundary of the resource and in nearby areas that contained surface artifacts.

#### Historical Resources Inventory and Evaluation

In July 2011, PG&E's project consultant conducted a field evaluation and formally evaluated the Shiloh-Fitch segment (Beard 2011). On October 24, 2015, PG&E's project consultant conducted a field survey of Fulton and Fitch Mountain substations (Supernowicz 2015). The purpose of the field survey was to complete a historical resources inventory and evaluation of the two substations.

#### **Paleontological Resources**

PG&E's project consultants assessed the paleontological sensitivity of geologic units exposed in the project area by a search of the available geologic and paleontologic maps and literature and a records search of the University of California Museum of Paleontology (UCMP) locality and specimen database (Haasl and Fisk 2015). The literature and museum database searches were supplemented by a field survey of the project area and its immediate surroundings. Two field surveys were conducted to assess the groundtruth of the available literature and maps and to identify project specific geology. These surveys occurred on November 8 and 9, 2012, and August 16 through 20, 2015.

Professional Standards

To address what would constitute significant impact on paleontological resources, PG&E utilizes the Potential Fossil Yield Classification System (PFYC) developed by the Bureau of Land Management in Informational Memorandum 2008-009 (BLM 2007) to assess paleontological sensitivity and level of effort required to manage potential impacts on significant resources. In this system, geologic units are classified based on the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts. The classifications range from very low to very high, with associated numerical indicators (i.e., Class 1 to Class 5). These standards are relevant to non-federal undertakings as well, and they are widely used by paleontologists because they provide for detailed analysis of paleontological sensitivity.

Existing Information Review

PG&E’s project consultants reviewed published and available unpublished geological and paleontological literature to develop a baseline paleontological resource inventory of the project area, and to assess the potential paleontological productivity of the stratigraphic units that may be affected by the project (Haasl and Fisk 2015). Sources included geological maps, paleontological and geological reports, and available electronic databases. A paleontological resources record review was conducted for the project using the online database maintained by the UCMP. The literature and museum database searches were supplemented by two field surveys of the project area and its immediate surroundings. The results of the literature and museum records search and the field surveys, as well as an analysis of the results are summarized in this chapter.

Paleontological Sensitivity

Paleontological sensitivity is a qualitative assessment of paleontological potential, made by a professional paleontologist taking into account the paleontological productivity of the stratigraphic units present based on prior fossil records, the local geology, and any other local factors that may be germane. According to BLM guidelines, sensitivity comprises (1) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, whether large or small, vertebrate, invertebrate, or paleobotanical remains, and (2) the potential importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecological, or stratigraphic data. A summary of the PFYC sensitivity categories used by the BLM and in this report is provided in Table 3.5-2: Potential Fossil Yield Classification Categories.

**Table 3.5-2: Potential Fossil Yield Classification Categories**

Categories of Paleontological Sensitivity	Definition
Class 1—Very Low	These geologic units are not likely to contain fossil remains. They include: <ul style="list-style-type: none"> <li>• Igneous or metamorphic units, excluding reworked volcanic ash units</li> <li>• Units Precambrian in age or older</li> <li>• Artificial or imported fill material</li> </ul>

Categories of Paleontological Sensitivity	Definition
Class 2—Low	<p>These sedimentary geologic units are not likely to contain vertebrate or scientifically significant nonvertebrate fossils. These units have the following characteristics:</p> <ul style="list-style-type: none"> <li>• Vertebrate or significant invertebrate or plant fossils not present or very rare</li> <li>• Units younger than 10,000 years before present</li> <li>• Recent aeolian deposits</li> <li>• Sediments that exhibit significant physical and chemical changes (i.e., diagenetic alteration)</li> </ul>
Class 3—Moderate or Unknown	<p>These are fossiliferous sedimentary geologic units where fossil content varies in significance, abundance, and occurrence; or sedimentary units of unknown fossil potential. These units are broken down into sub-classifications and exhibit the following characteristics:</p> <p><b><i>Class 3a – Moderate Potential</i></b></p> <ul style="list-style-type: none"> <li>• Often marine in origin with sporadic occurrences of vertebrate fossils</li> <li>• Vertebrate and scientifically significant invertebrate or plant fossils occur intermittently, predictability known to be low</li> </ul> <p>The potential to impact a significant fossil is relatively low, although there is potential to impact common fossils.</p> <p><b><i>Class 3b – Unknown Potential</i></b></p> <ul style="list-style-type: none"> <li>• Exhibits features and conditions that suggest significant fossils could be present, but little information about the paleontological resources of the unit or the area is known</li> </ul> <p>The potential to impact a significant fossil is unknown. Potential yield cannot be assigned without additional assessment.</p>
Class 4—High	<p>These are geologic units with a high occurrence of significant fossils. Vertebrate fossils or scientifically significant invertebrate or plant fossils are known and have been documented, but may vary in occurrence and predictability. Ground-disturbing activities have the potential to adversely affect resources if present. These units are broken down into sub-classifications and exhibit the following characteristics:</p> <p><b><i>Class 4a – High Exposed</i></b></p> <ul style="list-style-type: none"> <li>• Unit is exposed with little or no soil or vegetative cover</li> <li>• Extensive outcrop areas with exposed bedrock</li> </ul> <p>The potential for encountering or disturbing a significant paleontological resource is moderate to high.</p> <p><b><i>Class 4b – High Buried</i></b></p> <ul style="list-style-type: none"> <li>• Bedrock has high potential, but has moderating circumstances</li> <li>• Extensive soil or vegetation cover present; bedrock exposures are limited or not expected to be impacted</li> <li>• Areas of exposed outcrop are smaller than two contiguous acres</li> <li>• Outcrops forming cliffs of sufficient height and slope so that impacts are minimized by topography</li> <li>• Other characteristics are present that lower the vulnerability of known and unidentified paleontological resources</li> </ul> <p>The potential for encountering or disturbing a significant paleontological resource is moderate to high, but may be reduced by other environmental factors.</p>

Categories of Paleontological Sensitivity	Definition
Class 5—Very High	<p>These geologic units consistently and predictably produce vertebrate or scientifically significant invertebrate or plant fossils. Significant fossils are known and can be reasonably expected to occur within the impacted area. Ground-disturbing activities have the potential to adversely affect resources if present. These units are broken down into sub-classifications and exhibit the following characteristics:</p> <p><b><i>Class 5a – Very High Exposed</i></b></p> <ul style="list-style-type: none"> <li>• Unit is exposed with little or no soil or vegetative cover</li> <li>• Extensive outcrop areas with exposed bedrock</li> <li>• Frequent exposure and collection of fossils</li> </ul> <p>The potential for encountering or disturbing a significant paleontological resource is high.</p> <p><b><i>Class 5b – Very High Buried</i></b></p> <ul style="list-style-type: none"> <li>• Bedrock has very high potential, but has moderating circumstances</li> <li>• Extensive soil or vegetation cover present; bedrock exposures are limited or not expected to be impacted</li> <li>• Areas of exposed outcrop are smaller than two contiguous acres</li> <li>• Outcrops forming cliffs of sufficient height and slope so that impacts are minimized by topography</li> <li>• Other characteristics are present that lower the vulnerability of known and unidentified paleontological resources. The potential for encountering or disturbing a significant paleontological resource is high, but may be reduced by other environmental factors</li> </ul>
<p>Source: Adapted from the U.S. Bureau of Land Management’s Informational Memorandum 2008-009 (BLM 2007)</p>	

**Paleontological Survey**

PG&E’s project consultants conducted field surveys on November 8 and 9, 2012, and August 16 through 20, 2015, which included visual inspections of exposures of potentially fossiliferous strata in the project area, to document the presence of sediments suitable for containing fossil remains and the presence of any previously unrecorded fossil sites (Haasl and Fisk 2015). The existing geological maps and literature were found to be sufficiently accurate in their description of project geology. Petrified wood was observed within the Sonoma Volcanics, but no other fossil localities were observed during the field surveys. However, the results of the field survey indicated that the sedimentary deposits of the Sonoma Volcanics, Glen Ellen Formation, and older alluvial fan deposits in the vicinity of the project were conducive for the preservation of fossils.

**3.5.3 ENVIRONMENTAL SETTING**

**3.5.3.1 Prehistory**

The earliest documented human occupation in California, the Paleo-Indian period (ca. 10000 to 6000 B.C.), was a time of variable climate, rising sea levels, and other broad-scale environmental changes. People lived in small, highly mobile groups, moving through broad geographic areas



and leaving relatively meager archaeological remains. Archaeological sites dating to the Paleo-Indian period are rare in California, and a small number of sites dating to this period have been identified. The Paleo-Indian Period is recognized locally as the Post Pattern (Fredrickson 1974).

With the more stable climate of the long Archaic period (6000 B.C. to A.D. 1000), people gradually became more sedentary, new groups entered the area, and regional cultural distinctions developed. The Archaic period has been divided into three subperiods (Lower, Middle, and Upper) based on changes in sociopolitical complexity, trade networks, population, and the introduction of new artifact types (Fredrickson 1974, 1994). Many of the archaeological sites in the North Coast Ranges were first used in the Middle and Upper Archaic, when populations were increasing and groups moved into new areas to exploit a more diverse range of resources. By the Upper Archaic period, beginning around 500 B.C., mobility decreased. Subsistence strategies shifted to focus on intensive acorn processing and storage. Numerous small villages and the beginnings of a more complex society and economy characterized the end of this period.

During the Emergent Period (ca. A.D. 1000 to the Historic period), social complexity further developed. Settlement patterns included large centrally based villages where political leaders resided. Innovations associated with the period included the bow and arrow, small corner-notched points, and a diversity of beads and ornaments. Archaeological sites dating to this period are common throughout the North Coast Ranges and include sites of ritual significance, such as rock art; small resource-processing areas marked by stone-tool manufacturing debris (debitage) and flaked-stone tools or milling equipment (such as mortars and pestles); or moderate- to large-sized occupation sites marked by midden soils, dietary bone and shell, and a diversity of artifacts.

### **3.5.3.2 Ethnographic Period**

Many independent bands of Pomo Indians were located within Mendocino, Lake, and Sonoma counties. The Pomo Indians are among the most widely studied and best known groups in California. A considerable amount of literature is available describing their culture, customs, and life ways. The voluminous anthropological literature reflects the work of numerous anthropologists and ethnographers affiliated with the University of California, as well as broader summaries and more focused studies.

This ethnographic summary provides some background of Pomo for the present investigation. Pomo is a construction used by ethnographers to describe a series of highly similar but not identical cultures (Powers 1877). Pomo speakers never formed a single consolidated tribe, but instead, were organized within numerous politically independent bands. Seven distinct and mutually unintelligible languages are recognized under the Pomo moniker (Barrett 1908). According to Kroeber (1925), the combined speakers of the seven languages were the second most populous group in California, with an estimated pre-contact population of as many as 8,000 people. Geographic divisions—including northern, central, southern, eastern, southeastern, northeastern, and southwestern or Kashaya—delineate these languages. These geographic divisions represent linguistic distributions, not cultural or political entities (Peri et al. 1985).

Ethnographic literature indicates that at the time of historic contact, the study area was within the territory of speakers of the southern Pomo dialect (Barrett 1908). The Southern

Pomo language speakers were organized in a number of village communities, or tribelets; each controlled a definite territory, with families having regulatory rights to the resources within certain tracts of land (McLendon and Oswalt 1978).

Pomo subsistence strategies were well adapted to their environment. A number of subsistence pursuits were undertaken, including fishing in lakes and streams, fowling in the marshes, hunting large and small mammals along the coastal prairie and in the uplands, and gathering a diverse range of plant species from various eco-zones. The Pomo subsisted on deer and elk, while rabbits and squirrels were important smaller animals hunted for food. A variety of marine resources were utilized, including numerous species of shellfish, aquatic fish, and seaweed. Sea mammals, including harbor seal and sea otter, were hunted. As with many native California groups, acorn was a staple food.

Short-term stays at outlying camps and hamlets within the tribelet territory were made to augment locally obtained resources. Within the North Coast Ranges, networks of trade and exchange were highly developed to meet the various ceremonial, religious, economic, political, and/or subsistence needs of Pomo society (Loeb 1926). Intergroup relations between the Pomo and other neighbors were based on the active trade network along which goods flowed freely. Natural resources that the Clear Lake Basin offered included obsidian, magnesite, fish, and acorns. These items were traded for coastal resources such as sea mammal furs, seaweed, abalone shells, mussels, and other shellfish (Kroeber 1925)

The closest Pomo village site located in the vicinity of the project area is Kolo'ko, described in Samuel Barrett's work, the *Ethno-Geography of the Pomo Indians and Neighboring Tribes*, as being located at "a point about two miles east-southeast of Healdsburg" (Barrett 1908).

### **3.5.3.3 Historical Period**

The lands encompassing the Healdsburg and Windsor areas were once part of the 48,800-acre Rancho Sotoyome Mexican land grant owned by Henry Delano Fitch. Sotoyome (or "Satiyomes") was the name of a Wappo tribe. The grant extended along the Russian River, encompassing the Alexander Valley and present day Healdsburg.

Captain Henry Fitch was an early settler in the San Diego area, a sea captain, and the brother-in-law of General Marino Guadalupe Vallejo. General Vallejo was a California military commander, politician, and rancher from Spain who performed military duties as an officer of Mexico. Fitch's relationship with Vallejo was a critical factor in obtaining the Rancho Sotoyome grant.

In 1840, Fitch hired Cyrus Alexander to seek out unclaimed lands north of San Francisco Bay that were suitable stock range for cattle. In exchange for finding proper ranching land and setting up a cattle ranch, Alexander would be awarded two square leagues of land and part of the ranch stock (Hoover et al. 1970). Alexander headed north through the Napa Valley, by way of Mission Sonoma, until he struck the Russian River Valley. Alexander sent back a flattering report of the area to Captain Fitch, describing the numerous natural springs and expansive fields of wild oats and clover. Fitch petitioned the Mexican government, which officially granted an 8-

league parcel on September 28, 1841. By that time, Alexander had been living and working on the ranch for over a year.

From 1840 to 1850, rancho activity centered on cattle raising. Cattle were purchased from Captain John Sutter, and grain crops, such as Chilean wheat, were supplied by Captain Fitch. During this time, Alexander established the Sotoyome Grist Mill, which became an important milling center in Sonoma County area in the late 1840s.

Alexander's contract ended in 1845, at which time he settled on his tract in what is now Alexander Valley. Mr. Morse Carson (the brother of Kit Carson) took over management of the Rancho Sotoyome (Hoover et al. 1970). Fitch died in San Diego in 1849. Shortly after Captain Fitch's death, his widow sold off portions of the land grant.

The town of Healdsburg was named after Mr. Harmon G. Heald in 1857. Mr. Heald settled in the area in 1846, established a trading post, and purchased a portion of the Sotoyome Grant (Gudde 1998). Heald laid out the original town plot and donated several lots to schools, churches, and the main gathering plaza (Thompson 1877). In 1867, Heald's town was incorporated. The San Francisco and Northern Pacific Railroad reached Healdsburg in 1872.

In 1862, Hungarian Count Agoston Haraszthy arrived in Sonoma County with over 100,000 cuttings of prized grape varieties from France, Italy, and Spain, and started growing wine grapes in the Sonoma Valley. Haraszthy is credited with first promoting the concept that fine table wines could be produced in Sonoma County as well as Europe.

Farming, especially for fruit and vegetables, was a common agricultural industry in the 1890s to 1940s. Today, wine cultivation and vineyards dominate the area.

### 3.5.3.4 Record Search Results

#### *Previous Studies*

The records searches at the NWIC identified 40 prior cultural resources investigations within a 0.25-mile buffer of the project. Twenty of the investigations covered portions of the project survey area, and approximately 30 percent of the project had been previously surveyed. Table 3.5-3: Previous Studies within the Project Alignment provides the 20 previous studies that occurred within the project survey area.

**Table 3.5-3: Previous Studies within the Project Alignment**

Report Number	Year	Author	Report Title	Results
S-12	1973	King, T.F.	Archaeological Impact Evaluation: Larkfield North Subdivision, Sonoma County, California.	Negative
S-183	1975	Fredrickson D.A. and S.E. Stoddard	An Archaeological Reconnaissance of the Harold Soderling Property near Windsor, Sonoma County, California.	Negative
S-184	1975	Stradford, R.A.	An Archaeological Survey of Two Land Parcels Adjacent to the Old Redwood Highway near Santa Rosa, California.	Negative

Report Number	Year	Author	Report Title	Results
S-975	1973	Dietz, S.A. and M.P. Holman	An Archaeological Impact Survey of the Proposed Lakewood Hills property Development in the Vicinity of East Windsor, Sonoma County, California.	Negative
S-1886	1980	Baldrice, M.J.	An Archaeological Survey of the Proposed Pool Creek Subdivision, Windsor, Sonoma County, California.	Positive
S-2488	1981	Origer, T.M.	An Archaeological Study for the Airport/Larkfield/Wikiup Wastewater System, Sonoma County, California.	Positive
S-7874	1985	Origer, T.M.	An Archaeological Survey of the Shiloh Ranch, Sonoma County, California	Positive
S-10984	1989	Ferneau, J.A.	An Archaeological Study of the Condiotti Property Located at 5400 Faight Road, Santa Rosa, Sonoma County, California.	Negative
S-18750	1996	Gerike, C., et al.	Cultural resources Study for Cellular One's Antenna Site #320 near Windsor, Sonoma County, California.	Positive
S-18874	1996	Anderson, J. and T.M. Origer	A Cultural Resources Study for the Mark West Commons Apartments, 5135 & 5145 Redwood Highway, Santa Rosa, Sonoma County, California.	Negative
S-20028	1997	Flynn, K.	A Cultural Resources Evaluation of the Lot Line Adjustment and Minor Subdivision of the property Located at 10810 Hillview Road, Windsor, Sonoma County, California.	Negative
S-22483	2000	Gerike, C. and S.E.P Gillies	Plan for Evaluation of Cultural Resources, Santa Rosa Geysers Recharge Project, Sonoma County, California.	Positive
S-22510	1999	Loyd, J.M.	A Cultural Resources Study of the Town of Windsor Water System Mater Plan Windsor, Sonoma County, California.	Positive
S-22666	2000	Coleman, D.L., et al.	Cultural Resources Survey Report, the Santa Rosa Geysers Recharge Project, Alternative Alignments, Sonoma County, California.	Positive
S-22736	2000	Jones & Stokes	Volumes I, II, and III: Final Cultural Resources Inventory Report for the Williams Communications, Inc. Fiber Optic Cable System Installation Project, Point Arena to Robbins and Point Arena to Sacramento, California.	Positive
S-27404	2003	Loyd, J.M. and T.M. Origer	A Cultural resources Survey for the Chalk Ridge Subdivision 385 Pleasant Avenue, Windsor, Sonoma County, California.	Positive
S-30872	2005	Chavez, D.	Highway 101 HOV Lane Widening and Improvement Project: Steele Lane, Santa Rosa to Windsor River Road, Windsor.	Positive
S-32768	2006	Steen, E., and T.M. Origer	A Cultural Resources Survey of 5146 Old Redwood Highway, Santa Rosa, Sonoma County, California.	Negative

Report Number	Year	Author	Report Title	Results
S-33907	2005	Chavez, D., and J. Hupman	Archaeological Survey Report, Highway 101 Widening and Improvement Project from Steele Lane, Santa Rosa to Windsor River Road, Windsor, Sonoma County.	Negative
S-37610	2010	Del Bondio, L., and T.M. Origer	A Cultural Resources Survey for the Sutter Medical Center Raw Water Project, Santa Rosa, Sonoma County, California.	Negative

Source: Reports on file at the Northwest Information Center

### Previously Recorded Sites

Two previously recorded resources are located within the project's APE: a prehistoric lithic site P-49-1179 (CA-SON-1256) which also contains habitation debris, and the western end of the historic Fulton-St. Helena 60 kV transmission line (P-49-04081).

An additional 12 previously recorded resources are located within 0.25 mile of the APE (Table 3.5-4: Previously Recorded Sites). Of these, four are prehistoric lithic scatters, one of which also contains habitation debris. The remaining eight resources include six that are related to historic ranching (standing structures, remnant barn, sparse historic glass and ceramic scatter, old apple trees, rock fences, wooden fences, and a charcoal making pit) and two that are related to transportation (road segments and bridges).

**Table 3.5-4: Previously Recorded Sites**

Primary # P-49-	Trinomial CA-SON-	Resource Description	Recorder	Study # S-	Within APE
00823	0883	Lithic Scatter, Habitation Debris	Goodrich & Patterson 1976; Origer & Damon 1985; Sterline & Ballard 1999	07874 10995	
01179	1256	Lithic Scatter, Habitation Debris	Baldrice 1980; Morgan & Dalldorf 1999	01886 22510	x
01181	1258H	Remains of Historic Barn, Wooden Fences	Baldrice 1980	01886	
01386	1485	Lithic Scatter	Origer & Damon 1985; Greenway 1985	07874 10765	
01387	1486	Lithic Scatter	Origer & Damon 1985; Greenway 1985	07874 10765	
01395	1494H	Very sparse historic glass & ceramic scatter, remnant apple orchard	Origer & Damon 1985; Sterling & Ballard 1999	Not available	
01398	1498H	Historic Ranch Complex	Origer & Damon 1985	07874	
02711		Bridge (Chalk Hill Road over Wright Creek)	Ballard 1999	27404	
02816		Charcoal Making Pit	Origer 2000	23705	

Primary # P-49-	Trinomial CA-SON-	Resource Description	Recorder	Study # S-	Within APE
02876		Lithic Scatter	Chattan 2001	23800	
03271		Remnant Road Segments, rock retaining walls, bridge over Windsor Creek	Kaijankoski 2005	30226	
03272		Rock fence, ranching complex, eight aging apple trees	Kaijankoski 2005	30226	
03537		1920s ranch buildings	Webb 2003	30872	
04081		Fulton-St Helena 60 kV Power Line at Fulton Substation	Zukosky & Allison 2007	35929	x

### 3.5.3.5 Results of Native American Consultation

On June 10, 2011, the NAHC responded to the data request for the project and indicated that it had found a single resource listed on the Sacred Lands Inventory, described as a Sacred Power Site. Other outreach efforts resulted in a response from one tribe. In a letter dated July 18, 2011, the Federated Indians of Graton Rancheria stated that they do not believe that the project will adversely impact their cultural resources. Follow-up outreach efforts were made in September 2015. In an email dated September 24, 2015, the tribe forwarded an AB 52 designation letter for the project. In an email dated October 21, 2015, the tribe requested additional information for SON-1256. No other responses have been received as of the submittal of this Proponent's Environmental Assessment. Table 3.5-5: Details of Native American Correspondence summarizes efforts to contact the local Native American representatives.

**Table 3.5-5: Details of Native American Correspondence**

Name	Affiliation	Original Outreach		Supplemental Email		Results
		Date Letter Mailed	Follow-up Date	Date Emailed	Follow-up Date	
Harvey Hopkins, Chair	Dry Creek Rancheria of Pomo Indians	6/10/11	6/29/11	11/20/12	9/24/15	No response.
Suki Water	Coast Miwok, Pomo	6/10/11	6/29/11	11/20/12	9/24/15	No response.
Scott Gabaldon, Chair	Mishewal-Wappo Tribe of Alexander Valley	6/10/11	6/29/11	11/20/12	9/24/15	No response.
Ya-Ka-Ama	Pomo, Coast Miwok, Wappo	6/10/11	6/29/11	11/20/12	9/24/15	No response.
Reno Franklin, THPO	Stewarts Point Rancheria	6/10/11	6/29/11	11/20/12	9/24/15	No response.
Nina Harper, Environmental Planning	Stewarts Point Rancheria	6/10/11	6/29/11	11/20/12	9/24/15	No response.

Name	Affiliation	Original Outreach		Supplemental Email		Results
		Date Letter Mailed	Follow-up Date	Date Emailed	Follow-up Date	
Margie Mejia, Chair	Lytton Rancheria of California	6/10/11	6/29/11	11/20/12	9/24/15	No response.
Lisa Miller, Tribal Administrator	Lytton Rancheria of California	6/10/11	6/29/11	11/20/12	9/24/15	No response.
Gene Buvelot	Federated Indians of Graton Rancheria	6/10/11	6/29/11	11/20/12	9/24/15	No response.
Greg Sarris, Chair	Federated Indians of Graton Rancheria	6/10/11	6/29/11	11/20/12	9/24/15	No response.
Frank Ross	Federated Indians of Graton Rancheria	6/10/11	6/29/11	11/20/12	9/24/15	No response.
Nick Tipton	Federated Indians of Graton Rancheria	6/10/11	6/29/11	11/20/12	9/24/15	Responded by letter dated July 18, 2011, stating the tribe does not believe that the project will adversely impact their cultural resources.
Buffy McQuillen	Federated Indians of Graton Rancheria	-	-	-	9/24/15	Responded by email on September 24, 2015, with AB 52 designation letter. Request by email on October 21, 2015, for additional information for SON-1256.

### 3.5.3.6 Results of Field Inventory

During the field inventories, an additional 25 previously undocumented archaeological resources were identified in the project area (Table 3.5-6: Previously Undocumented Cultural Resources Identified During Field Inventory). These include 22 historical sites or features, one prehistoric archaeological site with a small historical component, and two prehistoric isolates. All resources are described in the following paragraphs.

Of the 22 historic resources/features, 15 consist of segments of historic fence lines. These features generally appear as old wooden and wire fence, constructed of split redwood staves that are covered in lichen, set upright with a single strand of barbed wire along the top, and oftentimes, with hog wire strung along the base. One is associated with a rock wall alignment, and one series of staves has been converted into a pedestrian footbridge over a small drainage. The fences likely were used to control livestock and appear to date to the middle of the 20th century. Historic fence lines are common throughout the area and are not considered significant. As such, these resources are ineligible for listing on the NRHP or CRHR.

**Table 3.5-6: Previously Undocumented Cultural Resources Identified During Field Inventory**

Primary Number	Trinomial	Description	Type
004349	--	Fence posts and rock alignment	H
003450	--	Fence	H
003451	2562H	Road	H
003452	--	Fence	H
003453	--	Fence	H
003454	--	Fence	H
003455	--	Fence	H
003456	--	Fence	H
003457	--	Fence posts converted to foot bridge	H
003458	--	Fence	H
003459	--	Fence	H
003460	--	Fence	H
003461	--	Fence	H
003462	--	Fence	H
003463	--	Fence	H
003464	--	Fence	H
003465	--	Brooks Road	H
003466	--	Chalk Hill Road	H
003467	--	Isolate (red Franciscan chert flake)	P
003468	--	Isolate (obsidian flake & projectile point)	P
003469	--	PG&E Fulton-Hopland 60 kV Transmission Line	H
--	--	FF-1: Lithic scatter, possible midden, and sparse scatter of historic debris (secondarily deposited)	P/H
--	--	FF-2: Rock alignment, probably a fence line	H
--	--	PG&E Fulton Substation	H
--	--	PG&E Fitch Mountain Substation	H



Three resources are historic roads depicted on the 1877 Thompson Atlas of Sonoma County. P-49-03451/CA-SON-2562H consists of a segment of an old private freight road between the cities of Healdsburg and Santa Rosa. The Russian River flooded on a seasonal basis, making travel along flat lands by horse-drawn wagon difficult. This road was constructed by John Grant to allow freight traffic between the two towns. The route went over the hill until it met up with Chalk Hill Road at the east end. The other two road segments (P-49-003465 and -003466) are segments of Brooks Road and Chalk Hill Road. Both of these roads are presently active, and have been extensively altered since their original construction to include new grades, larger travel widths, and paving. Historic road segments are ubiquitous in the region. Two of the roads continue to be used today and have been significantly altered over time. As such, these resources are not considered eligible for listing on the NRHP or CRHR.

One resource (P-49-003469) is the Fulton-Hopland 60 kV Transmission Line (43.5 miles long), part of which is being recondored as part of the the Fulton-Fitch Mountain Reconductoring Project. Beard formally evaluated this resource and determined it to be ineligible for the NRHP or CRHR as part of the cultural resources investigation for this project (Beard 2011).

Two substations, Fulton Substation and Fitch Mountain Substation, are part of the project. Both substations were formally evaluated, and it was determined that they did not appear eligible for listing on the NRHP or the CRHR (Supernowicz 2015).

FF-1, which was first identified during the survey in 2012, included a sparse scattering of historic debris and signs of a prehistoric component. The historic artifacts included one light-green bottle glass fragment, one thick clear window glass fragment, one white improved earthenware fragment, and a rusting metal fragment. The prehistoric artifacts included one chert flake and one obsidian nodule, potentially prehistoric in age. A thin lens of dark brown soil, capped by 1 foot of light-brown fill, was observed in the road cut. The area was recorded as a sparse lithic scatter with possible buried midden. The boundaries of this resource were provisionally delineated based on the distribution of materials in the road cut. During the subsequent 2015 survey, additional project components immediately within, adjacent, and near FF-1 were examined. As part of this effort, a scattering of obsidian flakes and an isolated mortar were observed just outside the construction work area. Given these additional facts, a culturally sensitive area was delineated within the vicinity of the site as originally recorded.

Presence-absence testing conducted in June 2015 in the culturally sensitive area yielded very few artifacts. Only a sparse scattering of lithics were found associated with the site. It is most likely that these materials were secondarily deposited, given their location at the downslope edge of a graded vineyard, and because it was reported that a pestle and projectile points were found 800 feet upslope to the east. The thin dark brown soil lens, exposed in the road cut, may represent the original surface, with the upper material being spoils from vineyard grading. No midden was encountered during testing, despite excavation to a depth of 1 meter. This resource, given its lack of data potential and depositional integrity, is not eligible for the NRHP or CRHR.

FF-2 is a 25-foot segment of a rock alignment of unknown total length. It is composed of local angular and sub-angular rock and small boulders. The rocks forming the segment that are within the project area are partially buried and disturbed by occasional infrequent vehicular travel. The

rock alignment most likely functioned as a rock wall demarcating a property line. In light of the fact that such rock alignments are very common to the region and that this particular one is poorly preserved, it is not considered eligible for the NRHP or CRHR.

Lastly, two isolates were found during the archaeological study. Isolate 1 (P-49-003467) consists of a single red Franciscan chert flake. Isolate 2 (P-49-003468) consists of an obsidian flake and obsidian Excelsior Foliolate projectile point. These isolates, by definition, are not considered eligible resources.

### **3.5.3.7 Paleontological Resources**

#### ***Geologic Units and Paleontological Sensitivity***

Portions of the project are underlain by three geologic units with a high potential (Class 4) for producing significant paleontological resources. They are, from oldest to youngest, the Miocene/Pliocene Sonoma Volcanics, the Pliocene/Pleistocene Glen Ellen Formation, and the Pleistocene older alluvial fan deposits. Younger alluvial fan deposits, Pleistocene-age landslide deposits, and rocks belonging to the Mesozoic age Franciscan Complex and Great Valley Sequence are also found in the project vicinity, but these units either have no potential to produce significant fossils or are not likely to be impacted by project activities, and will not be discussed further here. This section focuses on geologic units with a high paleontological sensitivity (Class 4).

#### **Sonoma Volcanics**

The Sonoma Volcanics consist of a diverse assortment of continental volcanic and volcanoclastic rocks, including basalt, andesite, and rhyolite lavas interbedded with tuffs, lahar deposits, debris avalanche deposits, mudflow units, reworked tuffs, sedimentary breccia deposits derived from volcanic rocks, and diatomaceous lacustrine deposits. While the lava flows were emplaced as high-temperature flows and are non-fossiliferous, horse fossils (*Equus* sp.) and scientifically important plant fossils have all been reported from volcanoclastic and tuffs within the Sonoma Volcanics (Dorf 1930; Axelrod 1944, 1950; Woodburne 1966).

The diverse composition of the Sonoma Volcanics makes it difficult to rate its paleontological sensitivity or potential. The potential to produce significant fossils will vary with the lithology encountered. The field survey revealed that Sonoma Volcanics that outcrop at the surface along the project consist of andesitic and basaltic lava flows, mud flows, volcanoclastics, and fluvial/lacustrine fine-grained sediments. The non-lava flow facies are potentially fossiliferous and have produced significant fossils elsewhere in Sonoma County and the surrounding region (Haas and Fisk 2015). These deposits are assigned a high sensitivity (Class 4) using the PFYC system.

#### **Glen Ellen Formation**

This sedimentary unit consists largely of fluvial deposits interbedded with volcanic tuffs. These deposits have not produced fossils from the project area but have produced fossils elsewhere in Sonoma County. Diatoms, freshwater molluscs, and plant remains have been reported (Cardwell 1958, McLaughlin et al. 2004). Several horse teeth (UCMP locality V90056) have also been tentatively assigned to the Glen Ellen Formation. Stratigraphically equivalent beds outcropping

to the north and west are also fossiliferous (Cardwell 1965, McLaughlin et al. 2004, Graymer et al. 2007). Because this geologic unit has produced fossils elsewhere in Sonoma County and because sedimentary facies conducive to the preservation of fossils were observed during the field survey of the project area, the Glen Ellen Formation is assigned a high sensitivity (Class 4) using the PFYC system.

#### Older Alluvial Fan Deposits

These deposits are composed of alluvial sediments derived from the surrounding uplands, and may include some terrace deposits. Numerous Pleistocene vertebrate fossil localities have been reported from the older alluvial fan deposits within Sonoma County (Hay 1927, Savage 1951, Jefferson 1991, UCMP online database). These localities have produced a diverse assemblage of vertebrates including a turtle (*Clemmys*), horse, ground sloth (*Glossotherium*), bison (*Bison*), mastodon (*Mammut*), and deer (*Odocoileus*). None of these localities are within the project study area; however, their presence elsewhere in the local area from sediments of similar age and origin to those found in some parts of the project area suggests that additional Pleistocene fossils could be encountered during project-related earth disturbance. In addition, Blake et al. (2002) mention the presence of silicified wood in older alluvial fan deposits. The occurrence of these significant fossils indicates that these deposits should be classified as having a high sensitivity (Class 4) using the PFYC system.

### **3.5.4 APPLICANT-PROPOSED MEASURES AND POTENTIAL IMPACTS**

The following sections describe significance criteria for impacts related to cultural and paleontological resources derived from Appendix G of the CEQA Guidelines, provide APMs to reduce impacts, and assess potential project-related construction and operational impacts on cultural and paleontological resources.

#### **3.5.4.1 Significance Criteria**

According to Section 15002(g) of the CEQA Guidelines, “a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.” As stated in Section 15064(b) of the CEQA Guidelines, the significance of an activity may vary with the setting. Per Appendix G of the CEQA Guidelines, the potential significance of project impacts to cultural and paleontological resources were evaluated for each of the criteria listed in Table 3.5-1, as discussed in Section 3.5.4.3.

#### **3.5.4.2 Applicant-Proposed Measures**

PG&E will implement the following APMs:

##### ***APM CR-1: Avoid Cultural Resources***

Impacts on resource P-49-001179 (CA-SON-1256) (which, while not formally evaluated, appears to be potentially eligible for the NRHP and/or CRHR) will be avoided through the development of a protective zone. Prior to construction, a qualified archaeologist will direct this measure to be implemented in a manner that will physically protect the sites (e.g., through the use of signage where necessary).

No other resources, including P-49-003449 through P-49-003469, Fulton Substation, Fitch Mountain Substation, FF-1, and FF-2, are considered eligible for listing on the NRHP or CRHR. Therefore, avoidance measures for these resources—such as an environmentally sensitive protective zone—are not necessary.

***APM CR-2: Stop Work if Previously Unknown Cultural Resources Are Discovered***

If buried cultural resources—such as chipped or ground stone, historic debris, or building foundations—are inadvertently discovered during site preparation or construction activities, work will stop in that area and within 100 feet of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures in consultation with PG&E and other appropriate agencies. With the archaeologist’s approval, work may continue on other portions of the site. PG&E will be responsible for ensuring that the archaeologist’s recommendations for treatment are implemented.

***APM CR-3: Stop Work if Human Remains are Discovered***

In the event human remains are encountered during the project, work in the immediate area of the find will be halted and the PG&E archaeologist and County Coroner will be notified immediately. Work will remain suspended until the Coroner can assess the remains. In the event the remains are determined to be prehistoric in origin, the Coroner will notify the Native American Heritage Commission, who will then identify a Most Likely Descendent. The Most Likely Descendent will consult with PG&E’s archaeologist to determine further treatment of the remains.

***APM PAL-1: Unanticipated Discovery***

If significant paleontological resources are discovered during construction activities, the following procedures will be followed:

- Stop work immediately within 100 feet;
- Contact the designated project inspector and Cultural Resource Specialist (CRS) immediately;
- Protect the site from further impacts, including looting, erosion or other human or natural damage;
- The project CRS will arrange for a Principal Paleontologist to evaluate the discovery. If the discovery is determined to be significant, PG&E will implement measures to protect and document the paleontological resource.

Work may not resume within 100 feet of the find until approval by the Principal Paleontologist and Cultural Resource Specialist.

***APM PAL-2: Workers Environmental Awareness Training***

Because high sensitivity formations have been identified within the project area, PG&E (or contractor) will provide environmental awareness training on paleontological resources protection. For this project, the Sonoma Volcanics, Glen Ellen Formation, and older alluvial fan deposits all have high paleontological sensitivities. This training may be administered by

the Principal Paleontologist as a standalone training or included as part of the overall environmental awareness training, as required by the project.

The training will include at minimum, the following:

- Types of fossils that could occur at the project site
- Types of lithologies in which the fossils could be preserved
- Procedures that should be followed in the event of a fossil discovery
- Penalties for disturbing paleontological resources

#### ***APM PAL-3: Monitoring***

Monitoring will be required for pole hole excavation activities greater than 3 feet in width and grading to depths greater than 2 feet that impact the Sonoma Volcanics, the Glen Ellen Formation, and the older alluvial fan deposits. However, because fossils do not predicatively occur within these formations and the amount of earth disturbance is relatively small, fulltime monitoring is not required, barring the occurrence of an unanticipated, highly-fossiliferous facies. Instead, monitoring will consist of periodic spot-checking of grading and augering for pole installation to check for the occurrence of fossils or facies highly likely to produce fossils. In the event that a highly fossiliferous facies is encountered, monitoring shall be fulltime until excavations within that facies are complete.

Monitoring will be done by a qualified paleontological monitor. The paleontological monitor will document monitoring activities on monitoring logs. Monitoring logs and reports shall include the activities observed, geology encountered, description of any resources encountered, and measures taken to protect or salvage fossils discovered. Photographs and other supplemental information shall be included as necessary.

#### ***APM PAL-4: Fossil Recovery***

In the event that significant paleontological resources are encountered during the project, protection and recovery of those resources may be required. On public lands, treatment and curation of fossils will follow procedures outlined by the land managing agency. On private property, treatment and curation of fossils will be conducted in consultation with the landowner, PG&E, and the CPUC. The Principal Paleontologist will be responsible for developing the recovery strategy and will lead the recovery effort, which will include establishing recovery standards, preparing specimens for identification and preservation, documentation and reporting, and securing a curation agreement from the approved agency. A paleontological monitor or other qualified individual may conduct the recovery of fossil discoveries under the direction of the Principal Paleontologist.

### **3.5.4.3 Potential Impacts**

Potential project impacts related to cultural and paleontological resources were evaluated against the CEQA significance criteria and are discussed below. The impact analysis evaluates potential project impacts during the construction phase and the operation and maintenance (O&M) phase.

The project includes reconductoring a 60 kV power line and 230 kV transmission line between the communities of Fulton and Healdsburg. The operation and maintenance activities required for the reconducted power and transmission lines will not increase from those currently required for the existing system; thus, no operation-related impacts will occur. Therefore, the impact analysis is focused only on construction activities that are required to install the new conductor, replace and remove poles, and perform minor substation modifications, including establishing associated required access and work areas, as described in Chapter 2.0, Project Description.

Project impacts on paleontological resources were evaluated based on an assessment of the paleontological sensitivity of identified geologic formations in relation to the project activities. In accordance with Appendix G of the CEQA Guidelines, project impacts on paleontological resources were considered significant if the project would directly or indirectly destroy a unique paleontological resource or site. Sensitivity ratings were employed to assess the likelihood and/or severity of project impacts. The sensitivity ratings provided in Table 3.5-2: Potential Fossil Yield Classification Categories, which combine a number of relevant considerations, are considered in light of the nature of subsurface disturbance associated with the project, and the significance of impacts is determined based on that information.

Project impacts on cultural resources are defined by Section 106 of the NHPA and CEQA as a change in the characteristics of a resource that convey its significance or justify its eligibility for inclusion in the NRHP, CRHR, or local register. Direct impacts may occur by (1) physically damaging, destroying, or altering all or part of a resource, (2) altering characteristics of the surrounding environmental setting that contribute to the significance of a resource, (3) allowing a resource to deteriorate through neglect, or (4) incidental discovery of archaeological resources without proper notification. Direct impacts can be assessed by determining the exact location of historical resources and assessing their significance under NRHP and CEQA criteria, identifying the types and extent of the proposed impacts and their effect on significant resources, and determining appropriate measures to reduce impacts to less-than-significant levels. Indirect impacts may include changes to the viewshed of a significant resource through introduction of a new project element.

CEQA recommends avoidance or preservation in place as the preferred treatment for eligible properties and unique or significant archaeological or historical resources (PRC 21083.2). If avoidance is not a feasible option, data recovery is a common treatment. For architectural resources, if physical changes to a property—excluding demolition—can be treated following the Secretary of Interior Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, the project-related impact on the historical resource will generally be considered reduced below a level of significance.

**a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5? *No Impact***

Surface surveys and records searches identified several built-environment resources within the APE, including the Fulton-Hopland 60 kV Transmission Line (P-49-003469); three historic road segments (P-49-3451, -3465, and -3466); 15 wooden fence lines (P-49-3449, -3450 and -3452

through -3464); Fulton Substation; Fitch Mountain Substation; and one rock alignment (FF-2). None are considered eligible for the NRHP or CRHR. As such, the project will have no impact on the previously listed resources.

**b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? *Less-than-Significant Impact***

Prehistoric site P-49-00179 (CA-SON-1256) occurs along a drainage within the power line corridor, but is not located near any power line poles or in any other work areas and would not be impacted by the project. The project will therefore result in a less-than-significant impact. APM CR-1 and APM CR-2 will further minimize the less-than-significant potential project impacts in the unlikely event that archaeological resources are discovered.

**c) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? *Less-than-Significant Impact with Mitigation***

The project is not located near or within a unique geologic feature. The project alignment is underlain by three geologic units: Miocene/Pliocene Sonoma Volcanics, Pliocene/Pleistocene Glen Ellen Formation, and the Pleistocene older alluvial fan deposits. Pleistocene older alluvial fan deposits have produced significant fossils in the vicinity of the project and have a high paleontological sensitivity. However, all proposed excavations and earth-moving activities within this geologic unit are shallow and therefore unlikely to impact paleontological resources. Although neither the Sonoma Volcanics nor the Glen Ellen Formation, which underlie large portions of the project, have previously produced fossils from within the study area for this project, these formations have produced significant fossils elsewhere in Sonoma County and also have a high paleontological sensitivity. During project construction, excavation and earth-moving activities within these geologic units could adversely impact significant paleontological resources.

Project activities that could impact paleontological resources in areas underlain by the Sonoma Volcanics or Glen Ellen Formation include excavation of holes measuring approximately 3 to 6 feet wide and 14 to 30 feet deep for replacement poles and potential grading to depths greater than 2 feet. Project components that will not involve significant ground disturbance (e.g., other access roads and pull sites, staging and work areas, helicopter landing pads, overland roads, and turnarounds) are highly unlikely to have adverse impacts on paleontological resources. Implementation of APM PAL-1 through APM PAL-4 will reduce potential project impacts on paleontological resources to a less-than-significant level.

**d) Would the project disturb any human remains, including those interred outside of formal cemeteries? *Less-than-Significant Impact with Mitigation***

The proposed project will not impact any known graves. Project impacts on human remains are not anticipated to occur. If human remains are discovered, PG&E will implement APM CR-3.

### 3.5.5 REFERENCES

Anderson, J. and T.M. Origer. 1996. A Cultural Resources Study for the Mark West Commons Apartments, 5135 & 5145 Redwood Highway, Santa Rosa, Sonoma County, California.

- Report No. S18874 on file at the NWIC, Sonoma State University, Rohnert Park, California.
- Axelrod, D.I. 1944. Pliocene floras of California and Oregon: the Sonoma flora: Carnegie Institute Washington Publication 553, p. 162-206.
- Axelrod, D.I. 1950. A Sonoma florule from Napa, California: Carnegie Institute Washington Publication 590, p. 23-71.
- Baldrice, M.J. 1980. An Archaeological Survey of the Proposed Pool Creek Subdivision, Windsor, Sonoma County, California. Manuscript on file at the Northwest Information Center.
- Barrett, S.A. 1908. The Ethno-geography of the Pomo and Neighboring Indians. *University of California Publications in American Archaeology and Ethnology* 6(1):1-332. California Office of Historic Preservation.
- Beard, V. 2011. Historical Evaluation of the Fulton-Hopland 60kV Transmission Line, Sonoma and Mendocino Counties, California. On file at the Northwest Information Center, Sonoma State University, Rohnert Park, California.
- Blake, M.C., Jr., Graymer, R.W., and Stamski, R.E. 2002. Geologic map and map database of western Sonoma, northern Marin, and southern Mendocino counties, California: USGS Miscellaneous Field Studies Map MF-2402, 42 p, scale 1:100,000.
- BLM. 2007. The potential fossil yield classification (PFYC) system: BLM IM2008-009\_att1
- CDPR. 1976. California Inventory of Historic Resources. California Department of Parks and Recreation, Sacramento.
- \_\_\_\_\_. 1992 California Points of Historical Interest. California Department of Parks and Recreation, Sacramento.
- \_\_\_\_\_. 1996 California State Historical Landmarks. California Department of Parks and Recreation, Sacramento.
- California State Historic Preservation Office. 1983. Summary of state/federal laws protecting cultural resources: California State Historic Preservation Office, Sacramento, CA, 10 p.
- \_\_\_\_\_. 2012a Directory of Properties in the Historic Property Data File for Sonoma County. On file at the Northwest Information Center, Sonoma State University, Rohnert Park, California.
- \_\_\_\_\_. 2012b Archaeological Determinations of Eligibility, Sonoma. On file at the Northwest Information Center, Sonoma State University, Rohnert Park, California.



- \_\_\_\_\_. 2013. California Historical Resources: List of Historical Landmarks, Points of Historical Interest, California Register of Historical Resources, National Register of Historic Places. <http://ohp.parks.ca.gov/ListedResources/?view=county&criteria=10>. Accessed on September 27, 2013.
- Cardwell, G.T., 1958, Geology and ground water in the Santa Rosa and Petaluma Valley areas, Sonoma County, California: U.S. Geological Survey Water-Supply Paper 1427, 270 p.
- Cardwell, G.T., 1965, Geology and ground water in Russian River Valley areas and in Round, Laytonville, and Little Lake Valleys, Sonoma and Mendocino Counties, California: U.S. Geological Survey, Water-Supply Paper 1548, scale 1:62,500.
- Chavez, D. 2005. Highway 101 HOV Lane Widening and Improvements Project: Steele Lane, Santa Rosa to Windsor River Road, Windsor. Report No. S-30872 on file at the NWIC, Sonoma State University, Rohnert Park, California.
- Chavez, D., and J. Hupman. 2005. Archaeological Survey Report, Highway 101 Widening and Improvement Project from Steele Lane, Santa Rosa to Winsor River Road, Windsor, Sonoma County. Report No. S-33907 on file at the NWIC, Sonoma State University, Rohnert Park, California.
- Coleman, D.L. Miller, C. Duke, L. Sample, M. Newland, D. Gadsby, N. Storey, J. Longfellow, and B. Gassner. 2000. Cultural Resources Survey Report, the Santa Rosa Geysers Recharge Project, Alternative Alignments, Sonoma County, California. Report No. S-22666 on file at the NWIC, Sonoma State University, Rohnert Park, California.
- DeGeorgey, A. 2011. Archaeological Resources Survey for the Fulton-Fitch Mountain 60v Reconductoring Project, Sonoma County, California. Prepared by North Coast Resource Management, Santa Rosa, California, for Pacific Gas and Electric Company Environmental Planning and Permitting, San Ramon, California.
- Del Bondio, L. and T. Origer. 2010. A Cultural Resources Survey for the Sutter Medical Center Raw Water Project, Santa Rosa, Sonoma County, California. Report No. S-37610 on file at the NWIC, Sonoma State University, Rohnert Park, California.
- Dietz, S.A. and M.P. Holman. 1973. An Archaeological Impact Survey of the Proposed Lakewood Hills Property Development in the Vicinity of East Windsor, Sonoma County, California. Report No. S-975 on file at the NWIC, Sonoma State University, Rohnert Park, California.
- Dorf, E. 1930. Pliocene floras of California: Carnegie Institute Washington Publication 412, p. 1-112.
- Ferneau, J.A. 1989. An Archaeological Study of the Condiotti Property Located at 5400 Faught Road, Santa Rosa, Sonoma County, California. Report No. S-10984 on file at the NWIC, Sonoma State University, Rohnert Park, California.

- Fernandez, T. and Lopez, J. 2014. PG&E Fulton Fitch 60v Reconductoring Project Southern Windsor to Fulton Substation Extension Cultural Resources Addendum Report. Unpublished report prepared for PG&E and TRC Companies, Inc., by Tremaine & Associates, Dixon, CA.
- Flynn, K. 1997. A Cultural Resources Evaluation of the Lot Line Adjustment and Minor Subdivision of the Property Located at 10810 Hillview Road, Windsor, Sonoma County, California. Report No. S-20028 on file at the NWIC, Sonoma State University, Rohnert Park, California.
- Fox, K.F., Jr., Sims, J.D., Bartow, J.A., and Helley, E.J. 1973. Preliminary geologic map of eastern Sonoma County and western Napa County, California: USGS Miscellaneous Field Studies Map MF-483, 4 sheets, scale 1:62,500.
- Fox, K.F., Jr., Fleck, R.J., Curtis, G.H., and Meyer, C.E. 1985. Potassium-argon and fission track ages of the Sonoma Volcanics in an area north of San Pablo Bay, California: USGS Miscellaneous Field Studies Map MF-1753, p. 9, 1 sheet, scale 1:125,000.
- Fredrickson, David. 1974. Cultural Diversity in Early Central California: A View from the North Coast Ranges. *Journal of California Anthropology* 1(1): 41-53.
- \_\_\_\_\_. 1994. Archaeological Taxonomy in Central California Reconsidered. In *Toward a New Taxonomic Framework for Central California Archaeology: Essays by James A. Bennyhoff and David A. Fredrickson*, assembled and edited by Richard E. Hughes, pp. 9i-103. Contributions of the University of California Archaeological Research Facility No. 52. Berkeley.
- Fredrickson D.A. and S.E. Stoddard. 1975. An Archaeological Reconnaissance of the Harold Soderling Property near Windsor, Sonoma County, California. Report No. S-183 on file at the NWIC, Sonoma State University, Rohnert Park, California.
- Gastaldo, R.A. 1999. International laws: collecting, transporting and ownership of fossils – USA: p. 330-338, in Jones, T.P. and Rowe, N.P. (editors), *Fossil plants and spores*, The Geological Society, London, England, 396 p.
- Gealey, W.K. 1951. Geology of the Healdsburg Quadrangle, California: California Division of Mines Bulletin 161, 50 p., scale 1:62,500.
- Gerike, C., L.S. Guases, S. Stewart, and K. Johnson. 1996. Cultural resources Study for Cellular One's Antenna Site #320 near Windsor, Sonoma County, California. Report No. S-18750 on file at the NWIC, Sonoma State University, Rohnert Park, California.
- Gerike, C. and S.E.P. Gillies. 2000. Plan for Evaluation of Cultural Resources, Santa Rosa Geysers Recharge Project, Sonoma County, California. Report No. S-22483 on file at the NWIC, Sonoma State University, Rohnert Park, California.

- Gudde, Erwin. 1998. *California Place Names: The Origin and Etymology of Current Geographical Names*. Fourth Edition. Revised by William Bright. Berkeley: University of California Press.
- Graymer, R.W., Brabb, E.E., Jones, D.L., Barnes, J., Nicholson, R.S., and Stamski, R.E., 2007, Geologic map and map database of eastern Sonoma and western Napa counties, California: U.S. Geological Survey Scientific Investigations Map 2956, scale 1:100,000.
- Haasl, D.M., and Fisk, L.H. 2015. Paleontological evaluation report for the Fulton-Fitch Mountain 60kV Reconductoring Project in Sonoma County, California: unpublished report prepared for PG&E and TRC Companies, Inc., by PaleoResource Consultants, Auburn, CA, p. 59.
- Hay, O.P. 1927. The Pleistocene of the western region of North America and its vertebrate animals: Carnegie Institute of Washington Publication 322, p. 1-346.
- Hoover M., G. Rensch, and E. Rensch. 1970. *Historic Spots in California*. Third Edition. Revised by William N. Abeloe. Stanford: Stanford University Press.
- Huffman, M.E., and Armstrong, C.F. 1980. Geology for planning in Sonoma County: California Division of Mines and Geology Special Report 120, scale 1:62,500.
- Jefferson, G.T. 1991. A catalogue of late Quaternary vertebrates from California: Part Two, Mammals: Natural History Museum of Los Angeles County Technical Report No. 7, p. 129.
- Jones & Stokes Associates, Inc. 2000. Volumes I, II, and III: Final Cultural Resources Inventory Report for the Williams Communications, Inc. Fiber Optic Cable System Installation Project, Point Arena to Robbins and Point Arena to Sacramento, California. Report No. S-22736 on file at the NWIC, Sonoma State University, Rohnert Park, California.
- King, T.F. 1973. Archaeological Impact Evaluation: Larkfield North Subdivision, Sonoma County, California. Report No. S-12 on file at the NWIC, Sonoma State University, Rohnert Park, California.
- Kroeber, A.L. 1925. *Handbook of the Indians of California*. Berkeley: California Book Company.
- Loeb, Edwin M. 1926. Pomo Folkways. *University of California Publications. American Archaeology and Ethnology* 19(2). Berkeley: University of California Press.
- Loyd, J.M. 1999. A Cultural Resources Study of the Town of Windsor Water System Mater Plan Windsor, Sonoma County, California. Report No. S-22510 on file at the NWIC, Sonoma State University, Rohnert Park, California.

- Loyd, J.M. and T.M. Origer. 2003. A Cultural Resources Survey for the Chalk Ridge Subdivision 385 Pleasant Avenue, Windsor, Sonoma County, California. Report No. S-27404 on file at the NWIC, Sonoma State University, Rohnert Park, California.
- McLaughlin, R.J., Sarna-Wojcicki, A.M., Fleck, R.J., Wright, W.H., Levin, V.R.G., and Valin, V.C., 2004, Geology, tephrochronology, radiometric ages, and cross sections of the Mark West Springs 7.5' Quadrangle, Sonoma and Napa counties, California: U.S. Geological Survey Scientific Investigations Map 2858, 16 p., scale 1:24,000.
- McLendon, Sally and Robert L. Oswalt. 1978. Pomo: Introduction. In *California*, edited by R.F. Heizer, p. 274-288. Handbook of North American Indians, vol. 8, William C. Sturtevant, general editor. Washington, D.C.: Smithsonian Institution Press.
- Origer, T.M. 1981. An Archaeological Study for the Airport/Larkfield/Wikiup Wastewater System, Sonoma County, California. Report No. S-2488 on file at the NWIC, Sonoma State University, Rohnert Park, California.
- \_\_\_\_\_. 1985. An Archaeological Survey of the Shiloh Ranch, Sonoma County, California. Report No. S-7874 on file at the NWIC, Sonoma State University, Rohnert Park, California.
- Peri, David, W., S.M. Patterson, and S.L. McMurray. 1985. *The Makahmo Pomo: Warm Springs Cultural Study*. California State University Sonoma. Rohnert Park: Academic Foundation.
- Powers, Stephen. 1877. *Tribes of California*. Reprinted 1976 by University of California Press with an introduction and annotations by Dr. Robert F. Heizer (1915-1979). pp 146-148.
- Pratt, L.R., D.M. Haasl, and L.H. Fisk. 2011. Draft Paleontological Resources Inventory Report for the Fulton-Fitch Mountain 60kV Reconductoring Project in Sonoma County, California. Prepared for Pacific Gas and Electric Company.
- Salley, H.E., and E.L. Patera. 1991. History of California Post Offices, 1849-1990. The Depot.
- Savage, D.E. 1951. Late Cenozoic vertebrates of the San Francisco region: University of California Publications, Bulletin of the Department of Geological Sciences, vol. 28, p. 215-314.
- SVP. 2010. Standard procedures for the assessment and mitigation of adverse impacts to paleontological resources: Society of Vertebrate Paleontology, p. 11. Online: <http://vertpaleo.org/PDFS/24/2482305f-38f8-4c1b-934c-1022d264e621.pdf>. Accessed on 20 January 2013.
- Sonoma County Permit and Resource Management Department. 2008. Sonoma County General Plan 2020 Open Space and Resource Conservation Element. Online: <http://www.sonoma-county.org/prmd/gp2020/index.html>. Accessed on 05 June 2011.

- Steen, E. and T.M. Origer. 2006. A Cultural Resources Survey of 5146 Old Redwood Highway, Santa Rosa, Sonoma County, California. Report No. S-32768 on file at the NWIC, Sonoma State University, Rohnert Park, California.
- Stradford, R.A. 1975. An Archaeological Survey of Two Land Parcels Adjacent to the Old Redwood Highway near Santa Rosa, California. Report No. S-184 on file at the NWIC, Sonoma State University, Rohnert Park, California.
- Supernowicz, Dana. 2015. Historical Resources Inventory and Evaluation Report of Fulton (605 River Road, Fulton) and Fitch Mountain (195 Bailhache Avenue, Healdsburg) PG&E Substations, Sonoma County, California. Unpublished technical memorandum prepared for TRC Companies by Quercus Consultants, Redding, California.
- Thompson, Thomas H. 1877. *Atlas of Sonoma County with Illustrations*. Oakland: Thomas H. Thompson & Co.
- Tremaine, K. and Lopez, J. 2015. PG&E Fulton Fitch 60 kV Reconductoring Project Southern Windsor to Fulton Substation Extension Updated Cultural Resources Addendum Report. Unpublished report prepared for PG&E and TRC Companies, Inc., by Tremaine & Associates, Dixon, CA.
- University of California Museum of Paleontology (UCMP) online locality and specimen datasets, [ucmp.berkeley.edu](http://ucmp.berkeley.edu), accessed on 17 August 2015.
- Woodburne, M.O. 1966. Equid remains from the Sonoma Volcanics, California: *Bulletin of the Southern California Academy of Science*, vol. 65, p. 185-189.