National Park Service
U.S. Department of the Interior

Golden Gate National Recreation Area

PG&E Jefferson-Martin 230 kV Transmission Line Project

Settlement Agreement • Environmental Assessment

May 2005

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Jefferson Martin 230 kV Transmission Line Project
Settlement Agreement Environmental Assessment

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Chapter 1: PURPOSE AND NEED

1.1 Introduction

This environmental assessment has been prepared to analyze the impacts of a proposed Settlement Agreement between the National Park Service and the Pacific Gas and Electric Company (PG&E). The California Public Utilities Commission (CPUC) has authorized PG&E to construct a portion of the Jefferson-Martin 230 kilovolt (kV) transmission line, along with related facilities, through the San Francisco Peninsula Watershed where the National Park Service (NPS) holds a Scenic and Recreation Easement (Figure 1).

The PG&E Jefferson-Martin 230 kV transmission line (CPUC-approved project) is an electric transmission line to be constructed on the San Francisco Peninsula from PG&E's Jefferson Substation in San Mateo County off Cañada Road south of Edgewood Road, to PG&E's Martin Substation in Brisbane off Bayshore Boulevard. The CPUC determined that this project is needed to meet forecasted electrical demand and improve the reliability of electrical supply to San Francisco and the northern Peninsula. In compliance with the California Environmental Quality Act (CEQA), the CPUC prepared a Draft Environmental Impact Report (DEIR) for the project, released on July 16, 2003. After the CPUC received and responded to public comments, the CPUC released the Final Environmental Impact Report (FEIR) in November 2003 (CPUC, 2003). The CPUC determined that locating this line through a portion of the Peninsula Watershed to avoid effects on residences and businesses along Trousdale Drive and El Camino Real would meet values and goals of the communities along the route. In August 2004, the CPUC issued a decision granting a Certificate of Public Convenience and Necessity to PG&E to construct the new 27-mile 230 kV transmission line.

A 3.3-mile portion of the project lies within the eastern edge of the San Francisco Peninsula Watershed, between San Andreas Lake and Interstate 280 (Figure 2). These lands are owned by the City and County of San Francisco (CCSF) and managed by the San Francisco Public Utilities Commission (SFPUC) for watershed protection as a water supply resource. The NPS has a Scenic and Recreation Easement (Easement) over lands in the San Francisco Peninsula Watershed. The NPS, CCSF, and PG&E disagree as to the rights granted by that Easement with regard to this project. PG&E has proposed a Settlement Agreement (Agreement) in order to resolve the land rights dispute between the NPS, PG&E, and the CCSF. Acceptance of the Agreement and implementation of the 3.3-mile segment of the CPUC-approved project through the San Francisco Peninsula Watershed is the Proposed Federal Action (Proposed Project) being evaluated under this National Environmental Policy Act (NEPA) environmental assessment (EA). The Proposed Project refers to the construction, operation, and maintenance of a 3.3-mile segment of the proposed 230 kV transmission line and towers/poles and its associated

100 foot right-of-way through the San Francisco Peninsula Watershed lands containing the NPS Easement.

Construction of the Proposed Project and implementation of the Settlement Agreement are considered federal actions and therefore, the NPS is required to conduct an environmental analysis as mandated by NEPA. A NEPA document is a disclosure document, "It shall provide full and fair discussion of significant environmental impacts and shall inform decision-makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment" (40 Code of Federal Regulations [CFR] 1502.1). This EA provides a full description of the Proposed Project and the existing environment, and analyzes anticipated beneficial and adverse environmental effects of the 3.3-mile project segment within the NPS Easement.

1.2 Background

1.2.1 Disagreement Regarding NPS Easements in the San Francisco Peninsula Watershed

The Proposed Project centers on a settlement of rights that NPS claims under Scenic and Recreational Easements applicable to 23,000 acres of San Francisco Peninsula Watershed lands. A brief description of these Easements and the dispute between PG&E, CCSF, and NPS concerning their scope and interpretation follows.

On January 15, 1969 the SFPUC granted a Scenic Easement to the Department of the Interior in exchange for additional federal funding to move Interstate 280 away from a proposed route along the shoreline of Crystal Springs Reservoir. The Scenic Easement encompasses roughly 19,000 acres of the SFPUC's Peninsula Watershed. A smaller Scenic and Recreation Easement encompassing approximately 4,000 acres of the Peninsula Watershed was also granted on the same date. These Easements (Figure 1) are administered by the Golden Gate National Recreation Area (GGNRA) within the National Park Service, a bureau of the Department of the Interior. The provisions of the two Easements are essentially the same, with the exception that outdoor recreation is an explicitly permitted use only on the Scenic and Recreation Easement. The Proposed Project would be located primarily within lands covered by the Scenic and Recreation Easement, and subsequent references are to that Easement. The Easement calls for preservation of the land in its present natural state, and requires that the land not be used for any purpose other than "for the collection, storage, and transmission of water and protection of water quality; outdoor recreation; ecological preservation and other purposes, which shall be compatible with preserving said land as open-space land for public use and enjoyment." The Easement prohibits the erection of structures except those directly related to compatible uses.

The Easement contains four restrictive covenants. These covenants prohibit projects involving the erection of structures; the granting of further encroachments to adjoining property owners; excavation or topographic changes; and the cutting or removal of timber

or brush. These activities are prohibited unless the GGNRA concurs that the activity, with the agreed upon mitigation, is compatible with the purposes of the Easement.

The Easement permits the Grantor (i.e., City and County of San Francisco) the perpetual right to use, or permit others to use, the property. The reservation of rights states: "The Grantor for itself, its representatives and its successors, assigns and permittees reserves all of their rights *not specifically restricted herein*, including without limitation the perpetual right to use the below-described premises for purposes which they may find necessary or desirable for their water or other utility operations as now or hereafter conducted, including without limiting the generality of the foregoing the right to construct, maintain, repair, expand, and reconstruct buildings (including the caretaker's cottages), storage facilities, reservoirs, pipe systems, cable systems, flumes, head walls, retention walls, bulkheads, cofferdams, pumphouses, dikes, roadways, public utilities, and similar improvements upon the below-described premises" (U.S. Department of the Interior, 1969). While the Easements include a reservation of rights for the City of San Francisco and its permittees to conduct certain types of activities on the Easement lands, the reservation does not extend to activities included within the restrictive covenants.

PG&E and CCSF contend that CCSF retained the right to use the watershed lands for utility operations and that NPS has no approval authority over the Jefferson-Martin Project. NPS contends that the Easements, including the restrictive covenants contained therein, grant NPS approval authority over the Jefferson-Martin Project. The NPS contends that concurrence is required due to an increase in PG&E's right-of-way from 50 feet to 100 feet, as well as construction of new roads outside of their current right-of-way on NPS Easement lands. The proposed Settlement Agreement would settle NPS's Easement claims concerning the construction of the Jefferson-Martin Project without resolving this legal issue. Instead, as set forth below, NPS would agree not to oppose the construction of the Jefferson-Martin Project, and PG&E would provide funds for the purchase of new open space land and recreational improvements within the GGNRA in the vicinity of the Proposed Project to mitigate impacts to scenic and recreation resources and values within the NPS Easement.

1.3 Proposed Federal Action

1.3.1 Proposed Settlement Agreement

As a result of the disagreement concerning NPS rights under the Easements, NPS and PG&E have engaged in extensive negotiations in an attempt to reach a resolution of this matter in a way that benefits both parties. PG&E has proposed a settlement to NPS in a Settlement Agreement (Agreement). This Agreement sets forth a settlement that allows for the implementation of the CPUC-approved project, while allocating funds for the preservation of key open space lands that would assure a no net loss of similar value within GGNRA jurisdiction, and the improvement of recreational opportunities within GGNRA to compensate for recreation impacts within the NPS Easement. Although the terms of the agreement are still being negotiated, the key provisions are as follows:

- PG&E will provide $1.5 million for land acquisition and conservation as well as improvements to recreational, scenic, natural, and/or open space values. This mitigation would compensate for diminished values within the GGNRA that would result from the 3.3-mile overhead segment of the Jefferson-Martin project. Mitigation for impacts to NPS Easement lands must meet the criteria established for site selection as described in Appendix A.
- A good faith effort will be made by the NPS and PG&E to enter into any agreements necessary to facilitate the acquisition by NPS of a parcel of open space land owned by the City of Pacifica in San Bruno, California ("Sweeney Ridge Gateway Parcel"), or an easement on that particular parcel.
- If acquisition of the Sweeney Ridge Gateway Parcel cannot be completed, PG&E will work with the Golden Gate National Parks Conservancy or another recipient approved by the NPS to facilitate the use of mitigation funds to improve recreational, scenic, natural, and/or open space values within the GGNRA or on land contiguous to the GGNRA boundary.
- The Jefferson-Martin transmission line, including the 3.3-mile overhead segment through NPS easement lands, will be constructed pursuant to the specifications and the route authorized by the CPUC.

1.3.2 Scope of the Proposed Federal Action

Although the entire CPUC-approved project is 27 miles long, this document specifically addresses impacts within the 3.3-mile segment on NPS Easement lands in the San Francisco Peninsula Watershed (Figure 2). The National Park Service does not have jurisdiction over other parts of the project, and these parts have been addressed in the CPUC FEIR; therefore, compliance with NPS guidelines and policies is only applicable to the 3.3-mile segment. However, the NPS does address impacts of the portions of the CPUC-approved project outside of NPS's Easement areas in the EA's cumulative impact discussion. This document will help determine if implementation of the Proposed Project, in combination with the Settlement Agreement, is an appropriate way to resolve the conflict between PG&E and NPS. This is accomplished by determining how well the alternatives meet the "Purpose and Need" for this project and how the alternatives respond to and resolve the environmental issues raised. Any future actions associated with mitigation measures funded through the Settlement Agreement will be subject to additional NEPA and/or CEQA review, as needed.

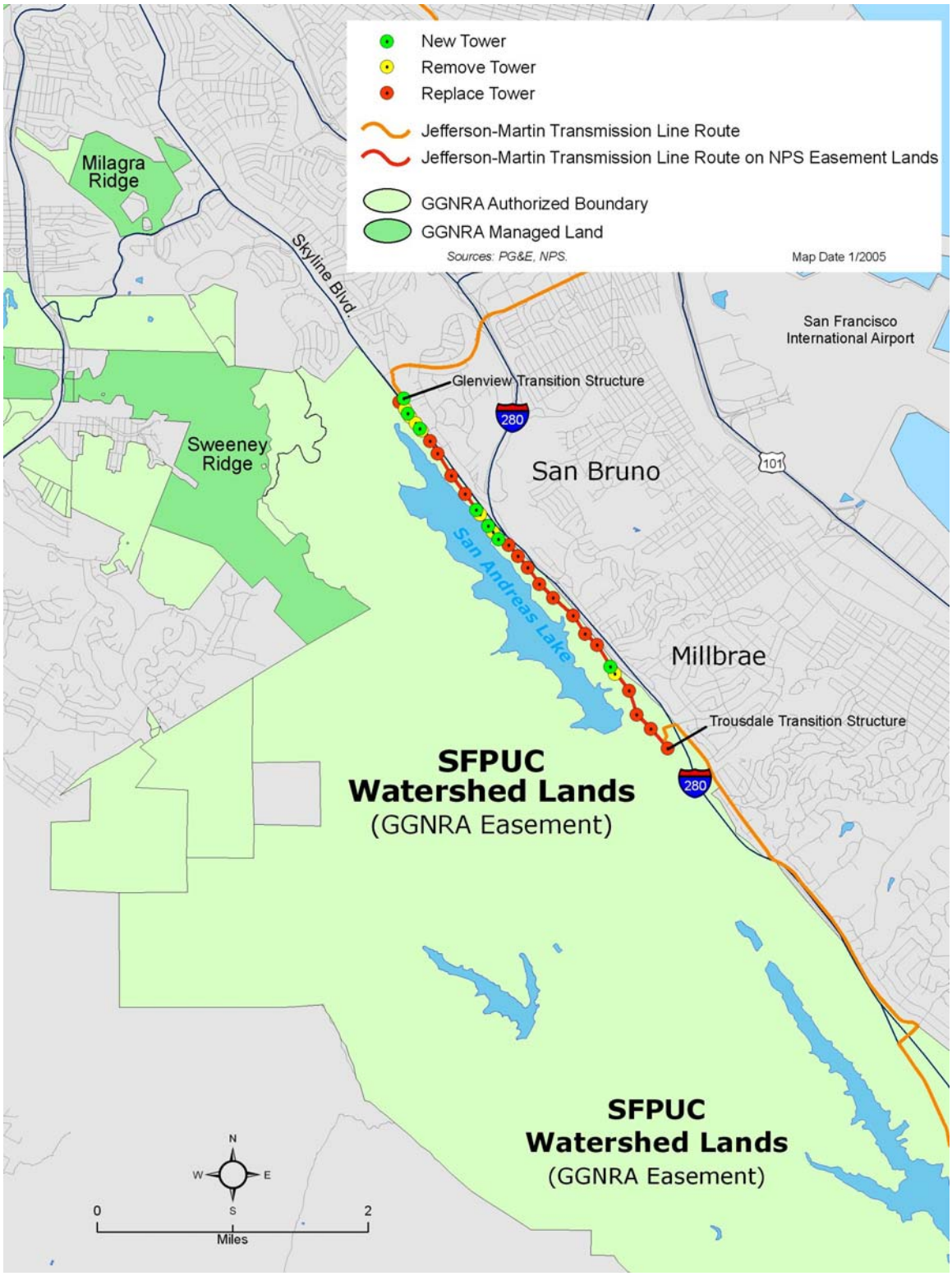
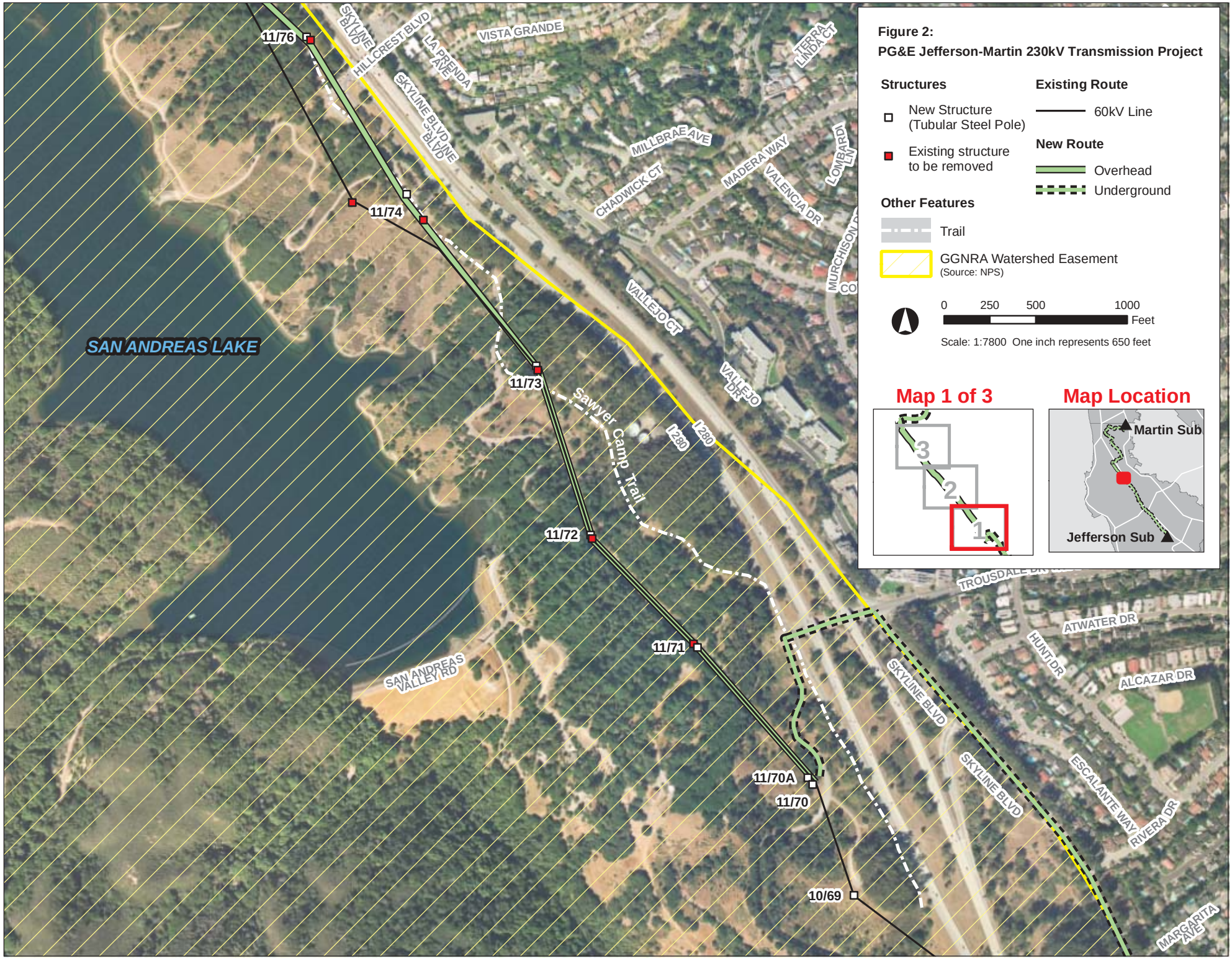
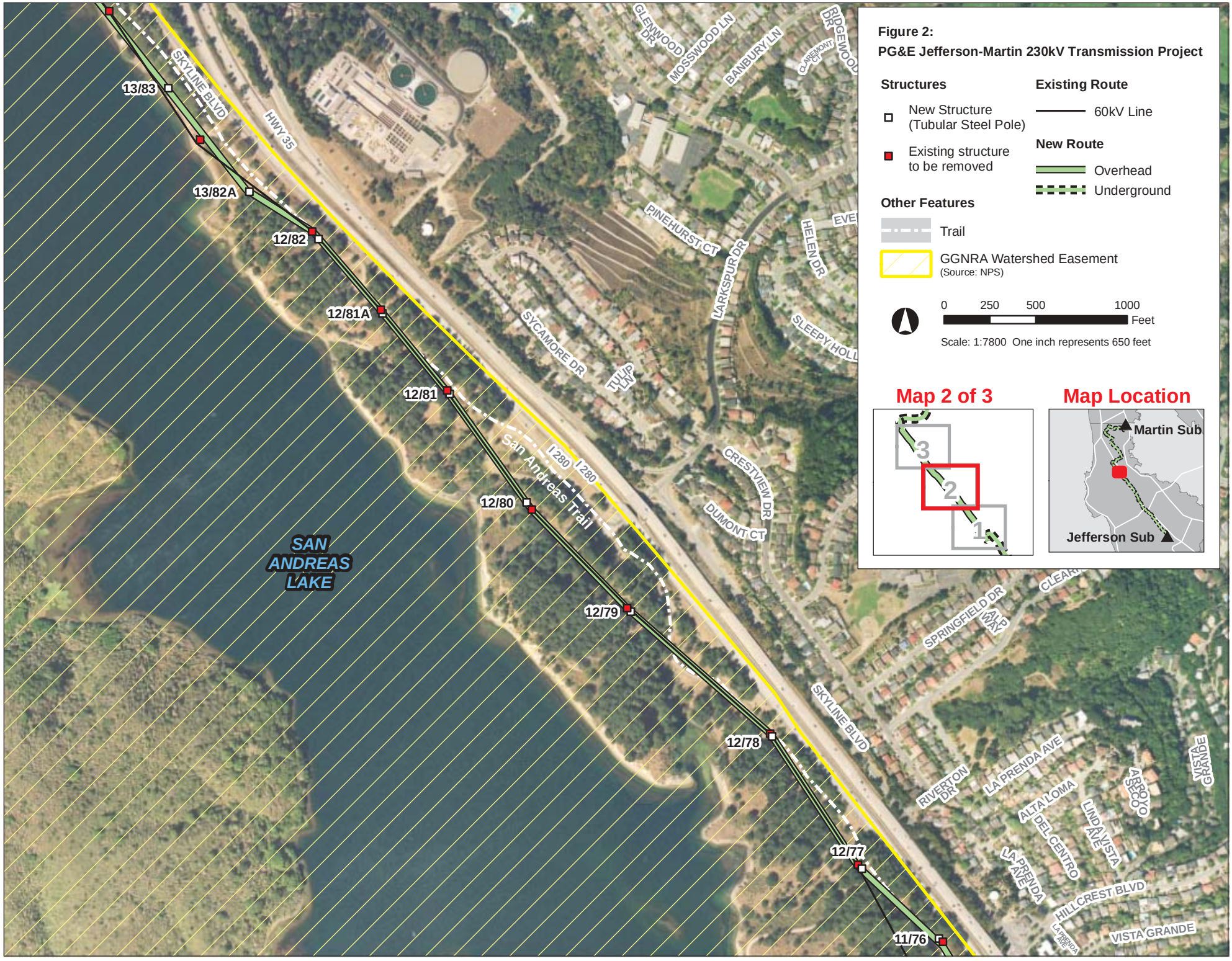
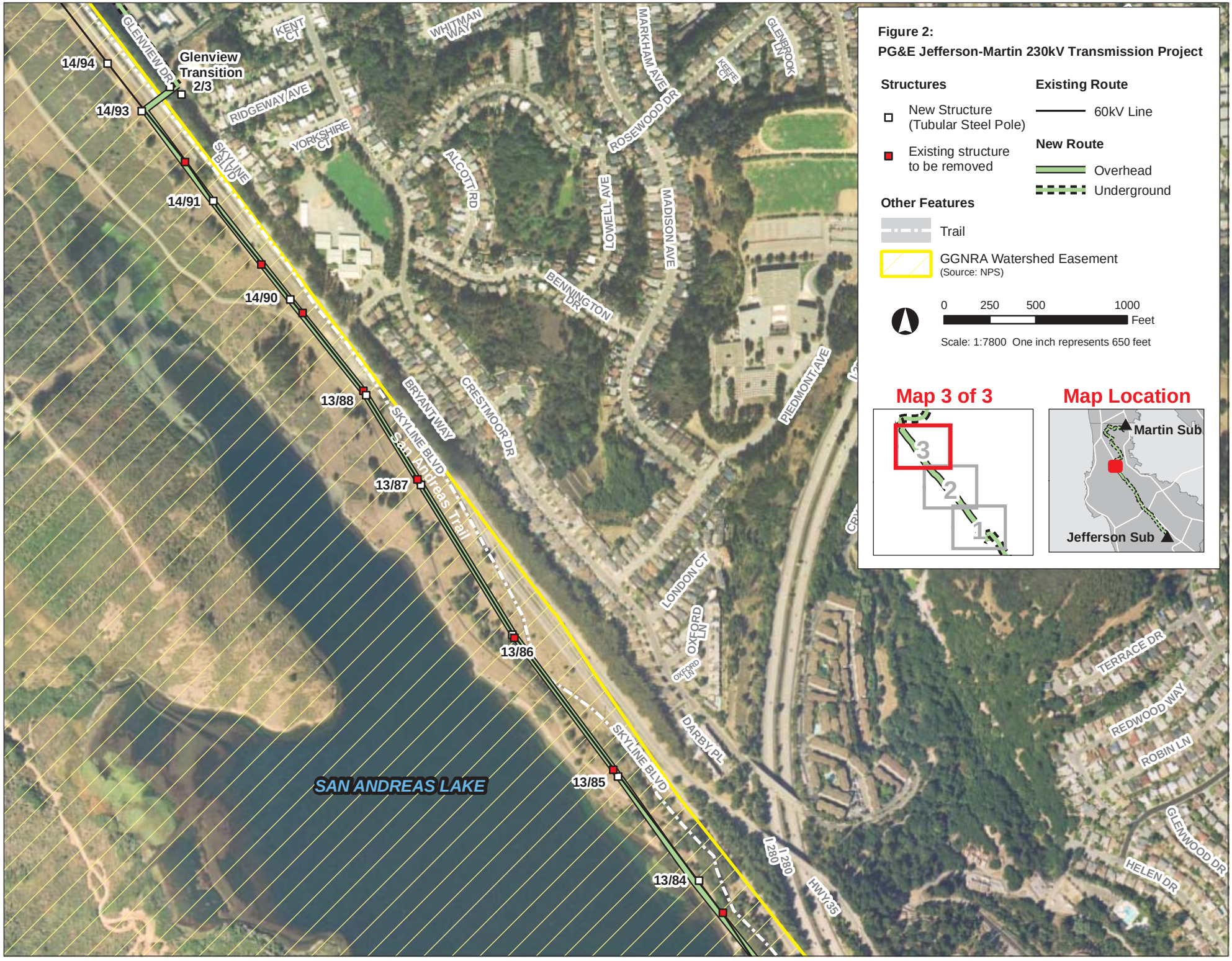


Figure 1: Regional View of Project Area


11/76
11/74
11/73
11/72
11/71
11/70A
11/70
10/69
SKYLINE BLVD
HILLCREST BLVD
LA PRENDA AVE
VISTA GRANDE
TERRA LINDA CT
MILLBRAE AVE
MADERA WAY
VALENCIA DR
LOMBARDI LN
CHADWICK CT
VALLEJO CT
VALLEJO DR
SAN ANDREAS LAKE
Sawyer Camp Trail
I-280
SAN ANDREAS VALLEY RD
TROUSDALE DR
ATWATER DR
HUNT DR
ALCAZAR DR
ESCALANTE WAY
RIVERA DR
MARGARITA AVE
Figure 2:
PG&E Jefferson-Martin 230kV Transmission Project
Structures
New Structure (Tubular Steel Pole)
Existing structure to be removed
Existing Route
60kV Line
New Route
Overhead
Underground
Other Features
Trail
GGNRA Watershed Easement
(Source: NPS)
0 250 500 1000
Feet
Scale: 1:7800 One inch represents 650 feet
Map 1 of 3
3
2
1
Map Location
Martin Sub
Jefferson Sub
file: C:\DATA\PROJECTS\masuoka\routes_Nov2004\8x11_NPS_EA.mxd
by EJP0 04/27/2005 01:09 PM





1.4 Purpose and Need for the Proposed Federal Action

Purpose and Need
In the broadest sense, NPS's goal is to ensure that the Proposed Project described herein is implemented in such a way to protect NPS's Easement property rights within the San Francisco Peninsula Watershed lands.

Project Objective
Protect NPS's Easement Holder Rights without Costly Legal Proceedings
The Easement lands are within the GGNRA's legislative boundaries, and the GGNRA enabling legislation mandates that GGNRA administer the lands in accordance with the Easements, the GGNRA legislation, and the National Park Service Organic Act. The dispute between NPS and PG&E concerns the interpretation and scope of the Easements in relation to the Jefferson-Martin Project. PG&E's settlement offer is designed to serve the purpose of protecting NPS's property rights as an Easement holder by resolving the dispute between NPS and PG&E regarding the interpretation and scope of the Easements without lengthy and costly legal proceedings. Without the Settlement Agreement, the following two scenarios could result.

Scenario 1**:** The NPS obtains a judicial determination that the CPUC-approved Jefferson-Martin Project triggers NPS concurrence rights under the Easements, forcing PG&E or CCSF to either apply for and obtain a concurrence determination with the existing CPUC-approved project route from the NPS or go back to CPUC for approval of a different route. Prior to NPS concurrence, a NEPA document such as this one would be prepared and project impacts would be assessed. If NPS withholds its concurrence or for other reasons PG&E seeks approval of a different route from the CPUC outside of the NPS Easements, no impacts would result along the CPUC-approved route. If PG&E seeks approval of a different route from CPUC, the consequences of CPUC's eventual approval of a different route are dependant on the alternate route that the CPUC would select and are too speculative to be addressed in this document.

In the short term, this scenario could result in a delay in construction of the CPUC-approved project if NPS seeks and receives an injunction to halt construction of the transmission line while a court's determination of the nature of NPS's rights under the Easements is pending.

Scenario 2: The NPS fails to obtain a judicial determination that the CPUC-approved Jefferson-Martin Project triggers NPS concurrence rights under the Easements, in which case implementation of the CPUC-approved project proceeds as planned. This would eliminate the terms of the Agreement including financial contributions from PG&E for mitigation including recreation improvements and the acquisition and conservation of open space land.

In the short term for Scenario 2, there could be a delay in project construction while the court considers NPS's claims regarding the applicability of the Easements. But, this scenario assumes that a court determines that NPS has no concurrence rights over the project. Once that judicial determination is reached, the project would proceed as approved by the CPUC. The temporary delay for the pendency of the court case would postpone construction and operation of the Jefferson-Martin 230 kV line. If NPS does not seek or a court does not grant such an injunction, construction of the CPUC-approved project would continue while these legal issues are determined by a court.

Moreover, the Settlement Agreement would result in additional environmental benefits associated with the conservation of open space lands and improvements to recreational, scenic, natural and/or open space values within the GGNRA or on land contiguous to or within the GGNRA boundary. As described in this document, these benefits would be produced without the creation of any significant environmental impacts; the construction and operation of the Jefferson-Martin Project would minimize impacts through the implementation of avoidance, mitigation, and compensation measures.

1.5 Background Leading to this Environmental Assessment

1.5.1 Jefferson Martin 230 kV Transmission Project

The CPUC determined that the 230 kV Jefferson-Martin project is needed to meet forecasted electrical demand, improve reliability of San Francisco's and the northern Peninsula's electrical supply, and support closure of the existing Hunter's Point power plant. Hunters Point Unit 4 is 45 years old and is in need of considerable upgrading to meet current air emissions limits. All major transmission lines importing power into San Francisco currently receive power from the East Bay and travel through a single corridor from the San Mateo substation to the Martin substation. The Jefferson-Martin project will help protect the San Francisco Peninsula from events disrupting supply at the San Mateo substation and along the San Mateo-Martin corridor. In addition, the project will tap power originating from south of the Peninsula area, thus diversifying the source of power.

The CPUC found that the Jefferson-Martin project by itself is not sufficient to support closure of the existing Hunters Point power plant. However, a combination of the Jefferson-Martin Project and additional transmission reinforcements north of the Martin substation and south of the Jefferson station would allow that plant to be closed, bringing additional economic and environmental benefits. For these reasons, the CPUC found that the project is clearly necessary.

1.5.2 CPUC-Approved Project and Location

In August 2004, the CPUC issued a decision granting a certificate of public convenience and necessity to PG&E to construct a new 230 kV electric transmission line between PG&E's Jefferson substation and PG&E's Martin substation, along with related facilities.

The facilities will be constructed in the County of San Mateo and cross underground through the towns and cities of Hillsborough, Burlingame, Millbrae, San Bruno, South San Francisco, Daly City, and Brisbane, as well as the San Francisco Peninsula Watershed. The transmission line will consist of both overhead and underground segments. The overhead segment extends 3.3 miles north from Trousdale Drive parallel to San Andreas Lake in the San Francisco Peninsula Watershed, to the Glenview Drive transition structure in San Bruno. The overhead section will be installed on new tubular steel poles generally within the existing 60 kV transmission line corridor within the San Francisco Peninsula Watershed. The underground section will be routed primarily in public street rights-of-way (ROW), and within the Bay Area Rapid Transit system (BART) ROW.

In the FEIR (CPUC, 2003) the proposed Jefferson-Martin project is characterized as having a southern segment and a northern segment, and the project alternatives included various configurations through combinations of southern and northern route alternatives. A hybrid configuration was selected. The CPUC found that the hybrid configuration was preferable because it avoids effects on residences and businesses along Trousdale Drive and El Camino Real.

The FEIR found that the authorized route for the Jefferson-Martin project has no significant unmitigable environmental impacts. The CPUC adopted the mitigation measures proposed in the FEIR, with certain minor modifications that are included in an Addendum to the FEIR. The mitigation measures from the FEIR that are relevant to the overhead portion of the project within the area of the NPS Easements are listed in Section 2.7, Table 4.

1.5.3 Project Components

The Jefferson-Martin Project route, as approved by the CPUC, is shown on Figure 1 and includes the project components and construction methods listed below. The Jefferson-Martin Project consists of:

- Installation of a new, 27.6-mile-long 230 kV transmission line, with one overhead segment totaling 3.3 miles and two underground segments totaling approximately 24.3 miles;
- Construction of four transition structures where the transmission line transitions from underground to overhead and vice-versa;
- Modification of the existing Jefferson and Martin substations to accommodate the new 230 kV transmission line;
- Modifications to equipment at the existing San Mateo, Ralston, Millbrae, and Monta Vista substations;
- Modification of Hillsdale Junction switching station for a new 60 kV arrangement;
- Access Roads: Existing access roads will be used to the extent possible;
- Pull Sites: these are areas used by the construction crews to pull and tension sock lines and inductors between towers; and

- Easement expansion from 50 feet to 100 feet wide.

1.5.4 DOI Involvement in CEQA Review

PG&E filed an application to the CPUC on September 30, 2002 for the Jefferson Martin transmission project. With its application, PG&E supplied a Proponent's Environmental Assessment (CPUC 2002). The CPUC, as Lead Agency under CEQA, then retained outside consultants (Aspen) to conduct environmental review of the project and prepare the 2003 FEIR for the California Public Utilities Commission.

The CPUC held a prehearing conference on January 10, 2003. At the prehearing conference, the United States Department of the Interior (DOI) stated its position that the Jefferson-Martin project is subject to the requirements of NEPA because a portion of the project would traverse National Park Service Easements on CCSF land. As the lead federal agency for NEPA, DOI stated its preference that the Commission prepare a joint environmental document, combining NEPA and CEQA review. PG&E and CCSF stated that they do not believe that DOI has approval authority over the project or that NEPA compliance is required.

CPUC staff informed DOI on January 24, 2003 that it would not be feasible for the CPUC to undertake the preparation of a joint CEQA/NEPA environmental document for the Jefferson-Martin project. Commission staff explained that at least three factors contributed to this decision: the ongoing dispute about whether the DOI has any federal jurisdiction related to the CPUC-approved project; the fact that DOI had not yet determined the scope or form of a federal NEPA document for the project; and the fact that expanding the scope of the CEQA review to comply with NEPA requirements would result in substantial delay in this proceeding. This discussion was also presented in the March 19, 2003 Scoping Memo and Ruling of Assigned Commissioner.

1.6 Relevant Plans and Policies

This EA was prepared pursuant to the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4341 et seq.), as amended in 1975 by P.L. 94-52 and P.L. 94.83. Additional guidance includes NPS Director's Order 12 (NPS, 2001a) which implements Section 102(2) of NEPA and the regulations established by the Council on Environmental Quality (CEQ) (40 CFR 1500-1508). The project must comply with requirements of NEPA as well as other legislation that governs land use, natural resource protection, and other policy issues within GGNRA. Many regulations and Executive Orders are typically addressed in NEPA documents. The following is a summary of several relevant guidance documents and regulations and a description of their relationship to the Proposed Project. Other applicable regulations, plans, and standards that were taken into consideration in the development of this EA and the analysis of the impacts are located in Chapter 3 within the discussions of individual resource topic areas including: Visual Resources, Biological Resources, Cultural Resources, Geology, Soils, and Paleontology, Hydrology and Water Quality, Public Health and Safety, Recreational Experience, Air Quality, Noise, and Transportation and Traffic. Compliance with major federal resource

protection laws, executive orders, and associated state regulations is summarized in Chapter 4.

National Park Service Organic Act

The key management-related provision of the Organic Act states that NPS will "…conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations" (16 U.S. Code 1, the National Park Service Organic Act). Congress has told the NPS that, "The authorization of activities shall be construed and the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress" (16 U.S.C 1a-1).

1980 General Management Plan for the Golden Gate National Recreation Area (GMP)

The GMP (NPS, 1980), which is the guiding plan for the park, and its corresponding EA were reviewed in the development of this EA. The San Francisco Peninsula Watershed was not specifically addressed in the 1980 GMP because it was added to the park boundary subsequent to GMP development. However, relevant management objectives identified in the GMP that provide useful context include:

- Locating development in areas previously disturbed by human activity whenever possible;
- To offer recreational opportunities to a diversity of park users and to impart knowledge necessary for full enjoyment of park resources through a particular emphasis on interpretation, education, and information programs;
- To retain opportunities for recreation activities pursued in the park today;
- Maintaining and restoring the character of natural environment lands by maintaining the diversity of native park plant and animal life, identifying and protecting threatened and endangered plant and animal species, and other sensitive natural resources, controlling exotic plants, and checking erosion whenever feasible; and
- To recognize the importance of the cultural resources within the recreation area through a positive program of their identification, evaluation, preservation, management, and interpretation.

The NPS Management Policies (2001)

The NPS Management Policies (NPS, 2001b)direct the NPS to preserve natural resources, processes, systems, and values of units of the national park system in an unimpaired condition, to perpetuate their inherent integrity and to provide present and future generations with the opportunity to enjoy them. Natural resources will be managed to preserve fundamental physical and biological processes, as well as individual species, features, and plant and animal communities. The NPS will strive to understand, maintain, restore, and protect the inherent integrity of the natural resources, processes,

systems, and values of the parks. The natural resources, processes, systems, and values that the NPS preserves are described generally in the 1916 Organic Act and in the enabling legislation or presidential proclamation establishing each park.

Peninsula Watershed Management Plan
The overhead alignment traverses the San Francisco Peninsula Watershed owned and managed by the SFPUC for the production, collection, and storage of drinking water for the City and County of San Francisco and suburban customers. The Final Peninsula Watershed Management Plan (SFPUC, 2002) provides a policy framework for the SFPUC's regulation of all activities on its watershed lands, including their management as a water supply resource. The watershed encompasses approximately 23,000 acres of the San Francisco Peninsula within San Mateo County and includes three storage reservoirs: Crystal Springs, San Andreas, and Pilarcitos.

Several dozen policies established by the SFPUC in the Peninsula Watershed Management Plan were identified that are or may be relevant to the Jefferson-Martin Project. These policies are described in Chapter 3 of this EA in the relevant impact topic sections and are listed in Appendix 4 of the FEIR. The following policies are relevant to multiple issues pertaining to the Proposed Project:

- Policy WA22: Proposals for new facilities, structures, roads, trails, projects and leases, or improvement to existing facilities shall be: (A) Limited to essential public services and not attractions unto themselves, but incidental to the primary purposes of the watershed (water quality and water protection), or to its enjoyment and conservation in its natural condition; (B) Designed, sited, constructed, and maintained to blend with the natural landscape and conform with the goals and policies set forth in this Plan; (C) Reviewed by appropriate SFPUC personnel to ensure compliance; (G) Minimized wherever possible for grading effects and the visibility of cut banks.
- Policy WA24: Require that all proposed development involving any grading of land include the submittal of a grading plan to SFPUC to retain the existing topography where feasible, minimize grading, minimize the impacts on scenic, ecological, and cultural resources and minimize off-site soil loss.
- Policy WA26: All maintenance, operation, and construction activities shall incorporate Best Management Practices (BMPs), as applicable.

1.7 Issues and Impact Topics in this Environmental Assessment

Issues and concerns affecting the Proposed Project were identified through input from individuals, organizations, State and federal agencies, and NPS public scoping efforts. NPS reviewed issues and concerns addressed in the CEQA planning process. The Proposed Project was evaluated under GGNRA's Project Review process and included internal scoping with staff. The NPS also conducted public scoping (see Chapter 4.1 for a description of the scoping process). The prominent issues raised during scoping are discussed in the topics addressed in Chapter 3 of this EA. These issue topics include: 1) Visual Resources, 2) Biological Resources), 3) Cultural Resources, 4) Geology, Soils,

and Paleontology, 5) Hydrology and Water Quality, 6) Public Health and Safety, 7) Recreational Experience, 8) Air Quality, 9) Noise, and 10) Transportation and Traffic.

1.7.1 Mandatory Topics and Dismissal of Issues

As required under NPS Director's Order 12, this analysis must address twelve mandatory topics. Listed below are the topics that must be addressed followed by a discussion on whether they are relevant to the Proposed Project.

a) Conflict with land use plans, policies, or controls – With implementation of the Settlement Agreement, the Proposed Project does not conflict with any local, state, federal or tribal land use plans, policies, or controls. Mitigation measures, as described in Chapter 3 of this EA, help ensure consistency with NPS Management Policies and the SFPUC Peninsula Watershed Management Plan.

b) Energy requirements and conservation potential – There are no schools, hospitals, or other public services provided along the overhead portion of the Jefferson-Martin Project. PG&E plans on sequencing the construction of the new line in sections, to ensure that minimal interruptions of utilities to the existing line occur.

c) Natural or depletable resource requirements and conservation potential –The FEIR concluded that the Jefferson-Martin Project would place few additional demands on local or regional water, wastewater, soils disposal, and waste disposal (FEIR D.14).

d) Urban quality, historic, and cultural resources – There are no federal, state, or local regulations, plans, or standards related to socioeconomics that are directly applicable to the overhead portion of the Jefferson-Martin Project and alternatives. There will be no impact to urban quality, because the project will not:
   a. Induce substantial population growth in an area;
   b. Create a significant demand for labor; or
   c. Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere.

   Effects on archeological sites, burials, and other cultural resources have been addressed in the Cultural Resources section of Chapter 3 (Section 3.8).

e) Socially or economically disadvantaged populations – It is required under Executive Order 12898 that all federal agencies evaluate the impact of proposed actions on minority and low-income populations. According to the U.S. EPA's Office of Environmental Justice, environmental justice is the "fair treatment…of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws…Fair treatment means that no group of people…should

bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies" (U.S. EPA, 2005). For environmental justice impacts to occur, significant environmental impacts attributable to a project must fall disproportionately upon environmental justice populations within the affected area. Aside from a single house owned by the SFPUC and occupied by a SFPUC Peninsula Watershed caretaker, no residences are located in the 3.3-mile watershed segment where the NPS holds an Easement. San Andreas Lake is located to the west of the project and Skyline Boulevard and Interstate 280 are located to the east. There will be no environmental justice impacts associated with this project.

f) Wetlands and floodplains – No construction would occur in wetlands as part of the Proposed Project. Indirect impacts to wetlands are addressed in Chapter 3, Section 3.7 under Biological Resources. The project site is not located within the boundaries of a 100-year floodplain (USACE, 2004).

g) Prime or unique agricultural lands – All land in the San Francisco Peninsula Watershed in which this project is located is preserved for water quality and conservation, and is not zoned for agricultural use. The entirety of the overhead portion of the Proposed Project is on land designated Open Space by the San Mateo County General Plan. None of the property is on land under Williamson Act contracts (SMCPBD in CPUC, 2003).

h) Endangered, threatened, or proposed plants and animals – All plant and animal species listed under the Endangered Species Act, as well as species proposed to be listed as threatened or endangered, have the potential to occur in the project area have been evaluated for impacts in Chapter 3, Section 3.7 under Biological Resources.

i) Important scientific, archaeological, and other cultural resources, including historic properties listed or eligible for the National Register of Historic Places – Impacts to cultural resources have been evaluated in Chapter 3, Section 3.8 under Cultural Resources.

j) Ecologically critical areas, Wild and Scenic Rivers, or other unique natural resources –There are no Wild and Scenic Rivers in the San Francisco Peninsula Watershed. However, U.S. Fish and Wildlife Service has proposed critical habitat for the California red-legged frog in the area of the Proposed Project (50 CFR Part 17). Impacts to biological resources are addressed in Chapter 3, Section 3.7.

k) Public health and safety – Public Health and Safety are addressed in Chapter 3 Section 3.11.

l) Sacred sites – No sacred sites, as defined by Executive Order 13007, have been identified in the project area. This is addressed in Chapter 3, Section 3.8 under Cultural Resources.

1.8 Incorporation by Reference

"Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. The incorporated material shall be cited in the statement and its content briefly described. No material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment" (40 CFR 1502.21).

Incorporation by reference has been used throughout this document to aid in the presentation of issues, eliminate repetition, and reduce the size of this EA. This EA relies heavily on information in the *Jefferson-Martin 230 kV Transmission Line Project Final Environmental Impact Report* (FEIR) (CPUC, 2003). PG&E gave the NPS permission to use information from the FEIR in the development of the EA. The FEIR is available for public review during normal business hours at the CPUC's Central Files (505 Van Ness Avenue, San Francisco) and via the Internet at:

http://www.cpuc.ca.gov/Environment/info/aspen/jefferson_martin/jeffmartin.htm.

The FEIR is also available for public review at the following libraries:

San Bruno Public Library
701 Angus Avenue West
San Bruno, California
(650) 616-7078

Burlingame Library
480 Primrose Road
Burlingame, California
(650) 558-7400

Chapter 2: ALTERNATIVES

2.1 Introduction

Two alternatives for the Proposed Project are described in this chapter, an Action Alternative (Alternative 1) and a No Action Alternative (Alternative 2). Following a description of the alternatives are the identification of the Preferred Alternative and the Environmentally Preferred Alternative. The chapter concludes with a description of the mitigation measures that have been incorporated into Alternative 1 to reduce or avoid adverse environmental effects.

2.2 Alternative Development Process

For this analysis, the selection of alternatives to be considered was constrained by the project's Purpose and Need as described in Chapter 1. An EA must identify a range of feasible alternatives that meet the objectives of the project. Environmental issues associated with the implementation of each alternative must also be addressed. In general, a project with broad multiple objectives is likely to have more reasonable alternatives than projects that have narrow and focused objectives. Because this environmental analysis has one specific objective (protect NPS's Easement holder rights without costly legal proceedings), alternatives to meet this objective are limited. Only one Action Alternative was identified for this EA that would meet the objective of the Proposed Project. It is noted that the No Action alternative does not actually meet the objective of the project; however, it is required by NEPA to be an alternative since it provides baseline information.

2.3 Alternative 1: Proposed Project and Settlement Agreement

Settlement Agreement

PG&E has proposed a settlement to NPS to compensate for impacts in a Settlement Agreement (Agreement). The objective of the Agreement is to settle competing interpretations of two Easements held by the NPS over lands owned by the CCSF and managed by the SFPUC in relation to the 3.3 mile-segment of the PG&E Jefferson-Martin 230 kV Transmission Line Project that traverses the NPS Easement lands. The settlement, as set forth in the Agreement, will not resolve the legal questions underlying competing interpretations of the Easements. However, it will allow for the construction and implementation of the Jefferson-Martin 230 kV Transmission Project, as approved by the CPUC, without objection from NPS. To compensate for impacts of the CPUC-approved project, key open space lands currently at risk of development will be conserved, and recreational, scenic, and/or open space values within the GGNRA, or on land contiguous with the GGNRA boundary, will be improved.

PG&E will provide $1.5 million for land acquisition and conservation as well as improvements to recreational, scenic, natural, and/or open space values. This mitigation would compensate for diminished values within the GGNRA that would result from the 3.3-mile overhead segment of the Jefferson-Martin project. Appendix A contains criteria for the selection of mitigation sites. Any future actions associated with mitigation measures funded through the Settlement Agreement will be subject to future NEPA and/or CEQA review, as needed.

A good faith effort will be made by the NPS and PG&E to enter into any agreements necessary to facilitate the acquisition by NPS of a parcel of open space land owned by the City of Pacifica in San Bruno, California ("Sweeney Ridge Gateway Parcel"), or an easement on that particular parcel. If acquisition of the Sweeney Ridge Gateway Parcel cannot be completed, PG&E will work with the Golden Gate National Parks Conservancy or another recipient approved by the NPS to facilitate the use of mitigation funds to improve recreational, scenic, natural, and/or open space values within the GGNRA or on land contiguous to the GGNRA boundary.

Proposed Project

The overhead portion of the Proposed Project consists of the removal of 3.3 miles of the existing double-circuit 60 kV transmission line and replacing it in an expanded easement on new poles with a new double-circuit transmission line consisting of a single 230 kV circuit and a single 60 kV circuit. There is a short section of underground line that connects to the Trousdale riser from Trousdale Drive that lies within the existing paved access road. The overhead section of the project is illustrated in Figure 2 and begins at existing Structure 11/70, which will be replaced by a transition structure referred to as the Trousdale transition structure. The line then proceeds overhead 3.3 miles to Structure 14/93. At Structure 14/93, the line will cross Skyline Blvd overhead to a new transition structure at Glenview Drive. The rebuilt line will utilize new PG&E standard tubular steel pole 230 kV transmission structures, which will be approximately 10 to 15 feet taller than the existing structures, on the average (Figures 3). Approximately 25 existing structures will be replaced with 22 new structures (see Tables 1 and 2), most adjacent to their existing locations. Two new structures will be added. Some proposed structures were removed or relocated in response to CPUC requirements for visual reroutes.

2.3.1 Location and Routing

The existing line is a double-circuit 60 kV line built on lattice steel towers and lattice steel poles. The rebuilt line will also be a double-circuit line with the western-most circuit energized at 230 kV. The eastern-most circuit will remain energized at 60 kV and will utilize 115 kV insulators and support hardware. This new 60 kV line will be capable of carrying the combined load of the two existing 60 kV circuits. The 230 kV circuit will be conductored with an aluminum and steel cable approximately 1.2 inches in diameter (954 ACSS 54/7 conductor). The 60 kV circuit will be conductored with a 0.85-inch-diameter aluminum and steel cable (477 ACSS 24/7 conductors).

Table 1: Existing and New Structures

Existing Structures		Proposed Structures				Comments
Tower	Height (ft)	Structure	Station	Height (ft)	Ground Elev (ft)	
Str 10/69	113		00+00.00		631	Tie to existing
Str 11/70	85	JM 11/70A	06+89.32	95	580	Replace
Str 11/71	97	JM 11/71	16+23.19	100	576	Replace
Str 11/72	87	JM 11/72	24+68.90	100	601	Replace
Str 11/73	92	JM 11/73	34+38.77	120	635	Replace
Str 11/74	123	JM 11/74	46+12.56	125	616	Move to 350' NW of existing Str 11/74
Str 11/75	83					Remove
Str 11/76	92	JM 11/76	56+28.96	105	581	Replace
Str 12/77	95	JM 12/77	61+96.35	115	562	Replace
Str 12/78	147	JM 12/78	70+66.03	125	508	Replace, Millbrae Tap
Str 12/79	87	JM 12/79	80+96.61	115	564	Replace
Str 12/80	132	JM 12/80	89+21.14	110	523	Replace
Str 12/81	130	JM 12/81	96+46.12	95	519	Replace
Str 12/81A	85	JM 12/81A	102+18.40	110	498	Replace, San Andreas Tap
Str 12/82	125	JM 12/82	107+53.29	100	510	Replace
		JM 13/82A	112+12.61	105	472	New, 400' SE of existing Str 13/83
Str 13/83	90	JM 13/83	119+28.74	115	455	Move to 320' NW of existing Str 13/83
Str 13/84	107	JM 13/84	126+77.25	115	458	Move to 220' NW of existing Str 13/84
Str 13/85	103	JM 13/85	133+96.19	130	475	Replace
Str 13/86	117	JM 13/86	143+62.83	130	477	Replace
Str 13/87	105	JM 13/87	153+19.10	115	490	Replace
Str 13/88	74	JM 13/88	158+94.63	105	515	Replace
Str 14/89	79	JM 14/90	165+57.24	115	515	Replace
Str 14/90	76					Remove
Str 14/91	74	JM 14/91	172+39.78	110	525	Replace
Str 14/92	80					Remove
Str 14/93	66	JM 14/93	178+68.18	130	535	Replace, Switched Tap
		JM 14/93A				New Glenview Transition Structure
Str 14/94	71		181+88.72		535	Tie to existing

Table 2: Structure Summary Table

Summary of New and Existing Structures	Number of New Structures	Number of Existing Structures Affected
Replace existing: new structure located within 100 feet of existing	19	19
Move structure over 100' from existing	3	3
New structure	2	N/A
Structure removed	N/A	3

A single 144-fiber optical groundwire will be installed the full length of the line above the 230 kV circuit to support control and protection systems for the electric facilities. The cable pulling sites identified for the transmission line will be used for installation of the conductor and optical groundwire. With the exception of several reroutes, the new transmission line poles will be replacing the existing towers and poles near their existing locations. An overview of the proposed tower locations and the current locations is shown in Figure 2.

2.3.2 Structures

PG&E will use tubular steel poles for the new line replacing the existing lattice structures and lattice steel poles (Figure 3). Figure 4 shows the existing lattice structure along the San Andreas Trail; Figure 5 is a visual simulation of the tubular steel structures along the San Andreas Trail. The new tubular steel poles will generally be larger and taller than the existing structures, as necessary to support the heavier weight of the new line, to provide for the necessary electrical ground clearance, and also as a result of greater separation between the conductor phases. The new structures range in height from 95 to 130 feet, with a base ranging from 5 to 7 feet in diameter. Heights of the existing and new structures are described in Table 1. PG&E evaluated the possibility of modifying the existing towers in place, but determined that the existing towers are generally of insufficient size and height to accommodate the proposed facilities consistent with current tower design criteria.

Within the overhead section, there are a number of service taps (connections) from the existing 60 kV power line. These taps will be transferred to the eastern circuit, which will remain energized at 60 kV. New tower-mounted line selector switches are expected at some tap locations.

2.3.3 Right-of-Way

The current right-of-way (ROW) easement owned by PG&E and used for the existing 60 kV power line is typically 50 feet wide. The ROW will need to be expanded typically to 50-100 feet in width, although some specific locations may vary slightly, depending on final engineering. The width of the ROW is primarily determined by electrical clearances for the conductors (wires). Vegetation management under the wires and maintenance access will be required. Portions of the overhead route are in regions known to host

endangered species habitat for the San Francisco garter snake, and the California red-legged frog. Permits will be required from the appropriate federal, state, and county agencies to perform the overhead line work, replace towers, and string new conductors. Descriptions of the permits and a discussion of their relevance can be found in Chapter 4 Section 4.2.

2.3.4 Construction Activities and Methods

The procedures for bringing personnel, materials, and equipment to each structure site, constructing the supporting structure foundations, erecting the supporting structure, stringing the conductors, and removing the existing structures will vary along the route alignment. PG&E will generally construct the transmission line in the following five steps:

Step 1: Site Access Preparation
The majority of the tower sites are accessible from existing paved and dirt roads. However, some tower sites will require establishment of cross country access roads or reestablishment of existing roads that have been out of service and have vegetation encroachment. In accordance with proposed mitigation measures to protect biological resources, PG&E will flag and avoid areas determined to be environmentally sensitive Table 3 summarizes the tower sites for which access road improvements are proposed.

Table 3: Overhead Construction Access Road Improvements

New Tower Number	Type of Improvement Proposed
11/72	Establish road along cleared gas line ROW by vegetation clearing and grading
11/73	Reestablish existing unpaved access road by grading
12/77	Reestablish existing unpaved access road by grading
12/79	Reestablish existing unpaved access road by grading

Step 2: Installing the Supporting Structure Foundations
Placement of tubular steel pole structures will require the use of a large auger to dig the foundation hole. The foundation hole will be between approximately 5 feet and 7 feet in diameter and from 15 to 30 feet deep. A reinforced steel cage with anchor bolts will be installed and concrete will be placed in the hole. During the concrete curing period of 1 month, workers will remove the concrete forms and restore the ground around the foundations. Temporary disturbance around each structure site will be limited to approximately a 100 foot diameter centered on the tower. Disturbance will consist of soil compaction from placement of crane outrigger pads and from vehicle tracks, as well as movement of workers and equipment. Restoration of disturbed areas will occur upon completion of construction.

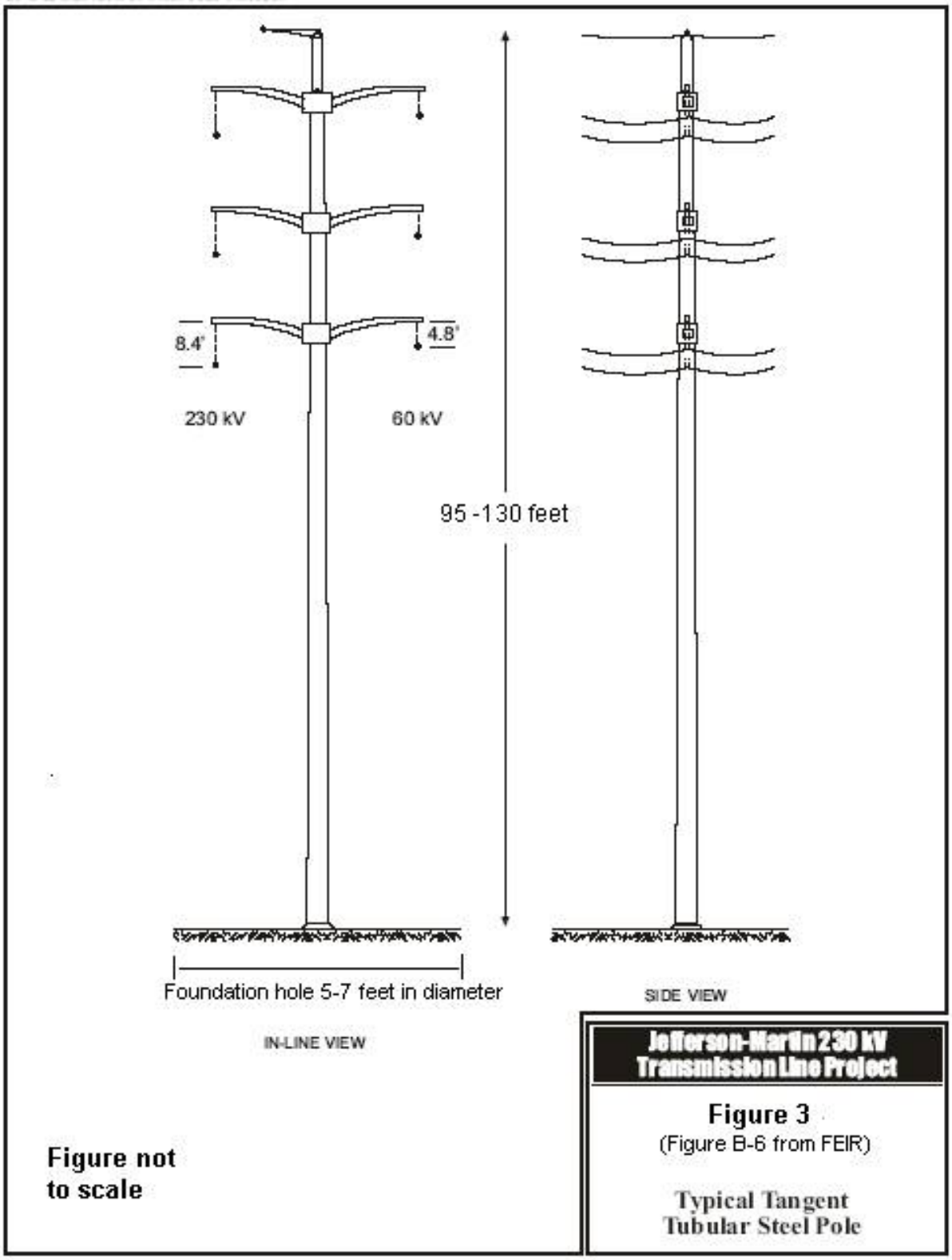


Figure 3: Tubular Steel Pole

Figure 4: Existing Lattice Structure along San Andreas Trail

Figure 5: Visual Simulation of Tubular Steel Structures along San Andreas Trail

Step 3: Removal of Existing Facilities

After access routes have been established and the new foundations installed, the existing line will be dismantled and removed section by section. PG&E system loading and operational constraints on the existing lines will not allow for the dismantling and removal of the entire line at one time. Each section of line between the existing substations will have to be de-energized, dismantled, removed, replaced, and re-energized prior to starting on the next section. This sectional approach to construction does not need to proceed in a linear fashion between sections and can move from the completion of one section to the commencement of any other section of the Proposed Project. This ability to jump between sections allows for construction activities to continue along the length of the Proposed Project and meet all operational and environmental constraints.

Before line dismantling begins, temporary crossing guard structures will be installed at all road crossings and any other locations where the existing conductors could potentially come in contact with electrical or communication facilities and vehicular traffic during removal. These structures will be placed at the edge of the roadway and will not require grading. Where lines will be pulled across Caltrans facilities, such as SR35 (Skyline Boulevard), Caltrans typically requires that either a net is installed over the highway or traffic is halted and the roads closed temporarily as lines are pulled. These closures will be performed in accordance with permits which typically require closures to be during low traffic flow times.

Conductor removal preparation activities require locating four temporary pull and tension sites, ranging from approximately 0.02 to 1 acre in size. These sites will also be utilized for the new conductor installation on the new line towers after dismantling and removal.

The conductor removal operation begins with the unclipping of the conductor from the existing insulator string and installing the conductor in stringing blocks. The stringing blocks are rollers attached to the lower end of the insulators. The sheaves allow the individual conductors to be pulled through each structure onto reels at the tension end of each segment or pulling section within the segment.

When the pull and tension equipment is set in place, a sock line (a small cable used to pull in the conductor) is attached to the existing conductors. After the conductors are attached to the sock line, they are pulled out using the reverse tension stringing method. This involves pulling the conductor through each tower under a controlled tension to keep the conductors and sock line elevated above crossing structures, roads, and other facilities.

After the conductors are pulled out, the sock line would be removed from the structures. The temporary crossing guard structures will be left in place for use during the installation of the new conductors. After the removal of the conductor, the structures will be dismantled using cranes. The structures will be hauled away from either the site or the staging area by truck. After the existing towers have been removed, the existing foundations will be removed, unless otherwise required by SFPUC, to 18 inches below grade. Debris will be removed and the hole backfilled with soil and replanted.

Step 4: Erecting the Supporting Structures
The double-circuit tubular steel pole structures will have three cross arms, each supporting a phase conductor on each side of the cross arm. The pole shafts will be delivered to the pole site in two or more sections. For safety and ease of construction, the poles will be assembled on the ground. The sections will be pulled together with a winch and the cross arms bolted to the pole. Insulators will be attached to the cross arms and secured. A large crane will erect the poles and set them on the anchor bolts embedded in the concrete foundation. Finally, the securing nuts on the foundation will be tightened.

Step 5: Conductor Stringing
Before conductor installation begins, temporary crossing guard structures will be installed at road crossings and other locations where the new conductors could accidentally come into contact with electrical or communication facilities and vehicular traffic during installation. PG&E will use a set of temporary crossing guard structures at all public road and other power line crossings. These temporary crossing guard structures are wood pole structures that resemble an "H," placed on each side of the roadway. These structures will be placed at the edge of the roadway and will not require grading; they will not interfere with traffic. These structures will prevent the conductor from being lowered or falling into the traffic below.

Conductor installation preparation activities will use the same pull and tension sites described in Step 3, and follow similar procedures, in reverse. The conductor stringing operation begins with installation of insulators and sheaves or stringing blocks. The sheaves are rollers attached to the lower end of the insulators that are, in turn, attached to the ends of each supporting structure cross arm. The sheaves allow the individual conductors to be pulled through each structure until the conductors are ready to be pulled up to the final tension position.

When the pull and tension equipment is set in place, a sock line (a small cable used to pull in the conductor) is pulled from tower to tower using a helicopter to place the sock line into the sheaves. After the sock line is installed, the conductors are attached to the sock line and pulled in or "strung" using the tension stringing method. This involves pulling the conductor through each tower under a controlled tension to keep the conductors elevated above crossing guard structures, roads, and other facilities. After the conductors are pulled into place, wire or conductor sags are adjusted to a pre-calculated level. The conductors are then clamped to the end of each insulator as the sheaves are removed. The final step of the conductor installation is to install vibration dampers and other accessories. The temporary crossing guard structures would be removed at this time.

Packing crates, spare bolts, and construction debris will be picked up and hauled away for recycling or disposal during construction. PG&E will conduct a final survey to ensure that cleanup activities have been successfully completed as required.

Transition Structures
As discussed above, the Project will require four transition structures to accommodate the change from the 230 kV overhead to the underground line and back to underground. Two will be needed to cross Crystal Springs Dam in a temporary overhead configuration, and one will one be needed at both the beginning (Trousdale Drive, Structure 11/70) and terminus of the overhead section (Glenview Drive, Structure 13/93A). The transition structure is a dead-end structure with the appearance of a tubular steel pole with a height similar to the other steel poles used for the overhead section. The three phases of the transmission line would approach or leave the structure in the same vertical plane.

2.3.5 Operation and Maintenance

PG&E would have to maintain the 230 kV/60 kV lines for the duration of their existence. A majority of the new lines are in the same ROW and positions as the existing 60 kV line described in Alternative 2. Instead of lattice steel towers and lattice steel poles, the new line will be built on tubular steel poles. Tables 1 & 2 in this chapter list the height of each existing tower and each new or replacement tower, and list the total numbers of existing and new towers. The ROW for the existing 60 kV transmission line is generally 50 feet. The ROW for the new transmission line will be up to 100 feet wide, therefore, vegetation within a larger area will have to be managed.

The line would be inspected by helicopter once every 24 months and would be inspected by a ground patrol once every 24 months. These inspections would be staggered so that one inspection is done every 12 months. If a tower is found to require maintenance during the inspection, a maintenance tag would be created and a separate crew would return at a later time to perform the repairs. A ground patrol would involve an inspector checking each structure and the easement for safety issues and component problems. The inspector would also perform minor maintenance activities as part of his/her duties. Such activities include, but are not limited to: maintaining signage, clearing brush from around the structure, and sealing concrete foundations. An air patrol would be done from a helicopter. The helicopter typically flies at a height equal to the top of the conductor and structures. It would hover at each structure, so a close inspection can be done on the line components at the top of the structure. Paint on new galvanized poles is durable for about fifteen years. The necessity to repaint the poles will be identified during the annual inspection and determined on a case-by-case basis.

In order to maintain the ROW, PG&E would patrol the line annually. This annual patrol would involve identifying vegetation that would be a compliance issue with PRC 4292 and 4293 (fire prevention standards for electrical utilities) within 12-18 months. PRC 4292 states that certain transmission towers must be cleared of brush 10 feet in any direction from the tower base dependent on the equipment present on each tower. PRC 4293 states that vegetation shall not be closer than six feet to the conductor during any weather condition or electrical loading on the line. Additionally, dead, old, decadent, or rotten trees, trees weakened by decay or disease, and trees or portions thereof that may contact the line shall be felled, cut, or trimmed as appropriate.

If PG&E is required to remove a tree, an herbicide would be applied to the trunk. This herbicide would prevent the tree from sprouting and growing into the transmission line again. If the cuttings are accessible by truck, they would be chipped and scattered at the site or hauled away. If the line is only accessible on foot, the cuttings would be cut into smaller pieces and scattered throughout the ROW.

PG&E would use SFPUC roads to access the towers in the watershed. PG&E does not have an annual maintenance plan for these roads. However, if an access road becomes overgrown, PG&E would mow or trim the vegetation in order to restore access to the existing towers.

2.4 Alternative 2: No Action Alternative

The No Action Alternative assumes the Proposed Project and Settlement Agreement, as described under Alternative 1, would not be approved by the NPS or constructed by PG&E. If the No Action Alternative is selected, it could result in either of the two scenarios described under the Purpose and Need in Section 1.4. The two scenarios have potentially different outcomes and different environmental consequences. The consequences that could result by implementing either scenario under the No Action Alternative are dependent on the alternate route that is developed, or actions that are taken, and are too speculative to be addressed in this document.

Taking the speculative nature of the potential outcomes into account, the NPS determined that it would be necessary, for the purposes of comparative analysis, to describe the baseline conditions of the Proposed Project site. According to DO-12 (NPS NEPA guidelines), the no action alternative "…sets a baseline of existing impact continued into the future against which to compare impacts of action alternatives. This is important context information in determining the relative magnitude and intensity of impacts." The baseline describes the current condition of the site without any of the proposed construction activities identified in Alternative 1.

2.4.1 Baseline Conditions

The baseline condition for the No Action Alternative assumes that no new construction or activities will occur in the San Francisco Peninsula Watershed on NPS Easement lands. Existing PG&E transmission facilities will be maintained and present management actions will continue.

There is an existing 60 kV double-circuit line that traverses the 3.3 miles of the San Francisco Peninsula Watershed NPS Easement lands to the west of Interstate 280 and Skyline Boulevard and east of San Andreas Reservoir (See Figure 2). A majority of this line is in the same ROW as the proposed transmission line described in Alternative 1. The existing line is built on lattice steel towers and lattice steel poles. There are currently 27 towers in the San Francisco Peninsula Watershed on NPS Easement land. Tables 1 & 2 in this chapter list the height of each existing tower and each new or replacement tower,

and list the total numbers of existing and new towers. The current ROW for the 60 kV transmission line is generally 50 feet.

The existing line is inspected by helicopter once every 24 months and it is inspected by a ground patrol once every 24 months. Typically, these inspections are staggered so that one inspection is done every 12 months. If a tower is found to require maintenance during the inspection, a maintenance tag is created and a separate crew will return at a later time to perform the repairs. A ground patrol involves an inspector checking each structure, and the easement, for safety issues and component problems. The inspector also performs minor maintenance activities as part of his/her duties. Such activities include, but are not limited to: maintaining signage, clearing brush from around the structure, and sealing concrete foundations. When an air patrol is done, the helicopter typically flies at a height equal to the top of the conductor and structures. It will hover at each structure, so a close inspection can be done on the line components at the top of the structure.

In order to maintain the ROW, PG&E patrols the line annually. This annual patrol involves identifying vegetation that will be a compliance issue with PRC 4292 and 4293 (fire prevention standards for electrical utilities) within 12-18 months. PRC 4292 states that certain transmission towers must be cleared of brush 10 feet in any direction from the tower base dependent on the equipment present on each tower. PRC 4293 states that vegetation shall not be closer than six feet to the conductor during any weather condition or electrical loading on the line. Additionally, dead, old, decadent, or rotten trees, trees weakened by decay or disease, and trees or portions thereof that may contact the line shall be felled, cut, or trimmed as appropriate.

If PG&E is required to remove a tree, an herbicide is applied to the trunk. This herbicide will prevent the tree from sprouting and growing into the transmission line again. If the cuttings are accessible by truck, they are chipped and scattered at the site or hauled away. If the line is only accessible on foot, the cuttings will be cut into smaller pieces and scattered throughout the ROW.

PG&E uses SFPUC roads to access the towers in the watershed. PG&E does not have an annual maintenance plan for these roads. However, if an access road has become overgrown, PG&E will mow or trim the vegetation in order to restore access to the existing towers.

2.5 Preferred Alternative

The Preferred Alternative for the proposed action is Alternative 1: Proposed Project and Agreement. This choice is based on a determination that Alternative 1 would best meet the Project Purpose and Need as described in Section 1.4. Although environmental impacts will result as a consequence of constructing and maintaining this alternative, PG&E has developed and will implement CPUC-approved mitigation measures to avoid and minimize impacts to resources, and will compensate for impacts on NPS Easement lands by providing funding up to a maximum of $1.5 million for land acquisition and

conservation as well as improvements to recreational, scenic, natural, and/or open space values.

2.6 Environmentally Preferred Alternative

The CEQ Regulations implementing NEPA and the NPS NEPA guidelines require that "the alternative or alternatives which were considered to be environmentally preferable" be identified (Council on Environmental Quality Regulations, Section 1505.2). Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources.

The National Park Service has determined that the environmentally preferred alternative for this project is Alternative 2: The No Action Alternative as described in Section 2.4. The No Action Alternative, in which the Proposed Project and Agreement are not approved and implemented, would have the fewest impacts on cultural and natural resources. Existing impacts will continue into the future, but no construction related or new impacts would occur until additional CEQA and/or NEPA compliance was completed. The 60 kV transmission line would be left in place and ordinary maintenance would continue. Therefore, the No Action Alternative would have the least amount of damage to the biological and physical environment and is the alternative which best protects and preserves natural resources on the site. It is also consistent with the Environmentally Superior Alternative identified in the FEIR by the CPUC. The Environmentally Superior Alternative uses a route entirely underground in areas outside of NPS Easements.

2.7 Summary of Mitigation Measures

Table 4 contains mitigation measures for Alternative 1, Proposed Project and Agreement. The mitigation measures are also described in relation to the project impacts in Chapter 3 under each impact topic section headed *Environmental Consequences*. All of these mitigation measures will be mandatory if Alternative 1 is approved by the NPS in the Finding of No Significant Impact, which is typically the final decision document for an EA. Table 4 contains 1) Applicant Proposed Measures (APM), which are measures originally proposed by PG&E, 2) Settlement Agreement Mitigation, which is mitigation related to the Settlement Agreement; and 3) CPUC-required measures from the FEIR.

Table 4: Mitigation Measures	Responsible for Compliance	Completion Timeframe
SETTLEMENT AGREEMENT MITIGATION		
PG&E will provide up to $1.5 million dollars to improve recreational, scenic, natural and/or open space values within the GGNRA or on land contiguous to the GGNRA boundary. PG&E, NPS, and the City of Pacifica have reached a tentative agreement to purchase the 7.2-acre Sweeney Ridge Gateway Parcel in San Bruno. PG&E seeks to purchase the property and deed it to the GGNRA, where it will remain open space. The property is contiguous with the San Francisco Peninsula Watershed. Other mitigation priorities are currently being considered for implementation with the remainder of the Settlement Agreement mitigation funds (Appendix A of this document contains criteria for selection of Settlement Agreement mitigation sites).	PG&E & NPS	Concurrent with construction or shortly thereafter
VISUAL RESOURCES		
Use Tubular Steel Poles from Structure 11/69 to 14/95 (V-15b in FEIR). PG&E shall use tubular steel poles rather than the proposed lattice steel structures from Structure 10/69 to Structure 14/95. This measure would simplify structural appearance, enable the structures to better blend in with adjacent trees and landscape, and reduce structural contrast.	PG&E & Contractor	Prior to construction
Visual Impact Minimization (V-1a in FEIR) Reduce visibility of construction activities and equipment.	PG&E & Contractor	During construction
Paint Structures with Appropriate Colors (V-6a in FEIR). Transmission structures visible from sensitive viewing locations (Structures 10/69-14/95) shall be painted appropriate colors to most effectively blend with the visible background landscape.	PG&E & Contractor	Prior to construction
Relocate Structures (V-16a in FEIR). Relocate proposed Structure 11/75 to the east as shown in Figure 2. This reroute would eliminate the visual prominence of Structure 11/75 on views from the Sawyer Camp Trail at San Andreas Lake Dam. In order to minimize impacts to a row of Monterey Cypress, a new structure, Structure 12/82a, was located on a hillside and Structures 13/83 and 13/84 were relocated to the north of their existing	PG&E & Contractor	Prior to construction

locations, allowing shorter spans that reduce the amount of tree removal in this area.		
Eliminate Structures (V-19a in FEIR). Eliminate Structures 11/75, 14/90, and 14/92 by increasing span distances between proposed structures. PG&E shall consult with the visual specialist to ensure that the objectives of this measure are achieved.	PG&E & Contractor	Prior to construction
Watershed Trails (Mileposts 11 to 14.1) (APM 8.5 in FEIR). In order to reduce the Project's potential to appear visually prominent as seen from the San Francisco Peninsula Watershed public recreation trails, PG&E shall, in consultation with the SFPUC Resource Management staff, install site-specific native tree and/or shrub plantings at key locations between the trails and those proposed replacement structures located in the immediate foreground of views from trails to partially screen views of the Project. Selected plant material shall be appropriate to the Watershed setting and shall conform to the SFPUC Watershed vegetation management policies.	PG&E & Contractor	Prior to construction
Views from I-280 (APM 8.6 in FEIR). In consultation with the SFPUC Resource Management staff, PG&E shall install site-specific planting to partially screen views of the proposed replacement structures that would be seen along the skyline in foreground views from I-280. The plant material will be native species appropriate to the Watershed lands and shall conform to the SFPUC Watershed vegetation management policies. The trees shall be placed so as to maximize screening effect and to generally preserve existing open landscape vistas.	PG&E & Contractor	Prior to construction
Enhancement of Views from I-280 and Watershed Trails (APM 8.7 in FEIR). In consultation with the SFPUC Resource Management staff, PG&E shall selectively prune trees and shrubs and/or remove trees in order to enhance views and vistas seen from the I-280 corridor and key Watershed recreation trails. Pruning and tree removal implemented under this measure shall be consistent with existing SFPUC Watershed resource management plans and shall conform to SFPUC Watershed vegetation management policies.	PG&E & Contractor	Prior to construction
Views from Skyline Boulevard (Mileposts 14.0 to 14.7) (APM 8.8 in FEIR). Informal planting of small trees and/or shrubs shall be installed intermittently as key locations along the west side of Skyline Boulevard in order to partially screen views of the proposed replacement poles. The plantings shall be spaced at sufficient intervals so as to allow intermittent open vistas toward the distant mountains. The plant material will be native species appropriate to the Watershed lands and shall conform to the SFPUC Watershed vegetation management policies. The plantings shall also be consistent with CPUC and PG&E regulatory and technical requirements for landscaping in proximity to transmission lines.	PG&E & Contractor	Prior to construction
BIOLOGICAL RESOURCES		
Implement Worker Education (B-1i in FEIR). A Worker Environmental Awareness Program	PG&E &	Prior to

(WEAP) shall be implemented for construction crews by a qualified biologist(s) provided by PG&E and approved by the CPUC prior to the commencement of construction activities. Training materials and briefings shall include but not be limited to, discussion of the Federal and State Endangered Species Acts, the consequences of noncompliance with these acts, identification and values of sensitive plant and wildlife species and significant natural plant community habitats, fire protection measures, hazardous substance spill prevention and containment measures, and review of mitigation requirements.	Contractor	construction
Provide Restoration/Compensation for Vegetation Losses (B-1a in FEIR). Where restoration is planned for mitigation of impacts to natural vegetation communities, the Applicant shall prepare and submit an Erosion Control and Revegetation Plan and Wetland Restoration Plan to the CPUC and the U.S. Army Corps of Engineers (for wetlands), the California Department of Fish and Game (CDFG) (for riparian habitat), and the Regional Water Quality Control Board (RWQCB) according to the requirements of any necessary permits.	PG&E & Contractor	Prior to construction for plans Post-construction
Perform Pre-construction Surveys and Provide Monitors (B-1d in FEIR). If the approved project route includes areas other than the Proposed Project route, pre-construction surveys shall be performed for certain special status plant and animal species within 200 feet of project construction activities (including structures, access roads, cable pulling sites, letdown sites, and other work areas). Biological monitors, approved by the CPUC, shall locate and stake identified sensitive resources in specified areas before construction activities begin and inspect areas prior to construction to ensure that barrier fencing, stakes, and required setback buffers are maintained. The CPUC shall be notified prior to the start of flagging activities so a CPUC-designated biologist may observe these activities.	PG&E & Contractor	Prior to construction
Complete Rare Plant Surveys (B-1e in FEIR). Prior to construction, comprehensive rare plant surveys shall be conducted in previously unsurveyed areas for all plants that have been identified within the study area and those plants with the potential to occur in the study area (as defined in Tables 4-1 in the FEIR). Surveys shall be conducted within appropriate areas along the selected construction ROW and in areas susceptible to surface disturbance by construction vehicles or personnel.	PG&E & Contractor	Prior to construction
B-1f Protect Sensitive Habitats During Construction (B-1f in FEIR). PG&E shall map and	PG&E & Contractor	Prior to construction

flag or fence sensitive resources that are at risk from project activities along overland travel routes and project access areas prior to construction, as approved by the land owner agency and shall ensure that vehicles or project personnel do not disturb identified areas during construction activities.		
Implement Weed Control (B-1g in FEIR; Supplements APM BIO-6 in FEIR). PG&E shall protect against the potential introduction or spread of noxious weeds. The following measures shall be implemented to control the introduction of weed species within areas disturbed during transmission line construction; implementation of these measures during construction shall be verified by the CPUC Environmental Monitor: • Vehicles and equipment used in off-road transmission line construction shall be cleaned after being used off-road on a different project and prior to initiating construction for the project in off-road areas with sensitive habitat as determined during the development of weed management and monitoring procedures and enforced by the biological monitor. • Any imported topsoil shall be obtained from a source that can certify the topsoil as being "weed free." • Vegetation clearing shall be minimized and shall occur only within the minimum footprint necessary for construction. • During construction, the upper 6-12 inches of topsoil (or less depending on existing depth of topsoil) shall be salvaged and replaced wherever the transmission line is trenched through open land (not including graded roads, and road shoulders, and other previously disturbed areas). Areas having a significant weedy component may not be subject to topsoil salvaging requirements as determined by the CPUC-approved biological monitor. • Disturbed soils shall be revegetated with an appropriate seed mix that does not contain weeds; revegetation in sensitive vegetation types shall adhere to the relevant mitigation measures. • Development and implementation of weed management procedures to monitor and control the spread of weed populations along the ROW.	PG&E & Contractor	Prior to construction
Invasive Species and Sudden Oak Death Control (APM BIO-6 in FEIR). BMP's will include measures to reduce the potential introduction or spread of pathogens, such as sudden oak death. Sudden oak death management protocols are currently being developed for the San Francisco Watershed lands. Coordination with the SFPUC and resource and public agencies regarding sudden oak pathogen management and invasive plant species will be conducted prior to construction.	PG&E & Contractor	Prior to construction /during construction
Compensate for Tree Loss (B-2a in FEIR). Standards for maintenance, management, and preservation of native and indigenous trees are established in the San Mateo County	PG&E & Contractor	Prior to construction

Heritage Tree Ordinance and the San Mateo County Significant Tree Ordinance. Tree removal permits or approvals for lost heritage or significant trees shall be obtained and mitigation shall be coordinated, as required, with the appropriate public and resource agencies. Mitigation for lost trees may not be implemented within the ROW due to fire safety concerns, and instead may be implemented in an alternative, agency-approved location.		
Restoration After Construction (B-3a in FEIR). Restoration activities shall commence immediately after completion of construction, and shall be monitored for five years. In areas where habitat had been disturbed prior to the project (disked areas and dirt roads), a readily available native grass seed mix shall be used.	PG&E & Contractor	Prior to construction
Wetlands Avoidance and Restoration (APM Bio –7). A jurisdictional delineation of wetlands within the proposed transmission line corridor shall be performed by PG&E and verified by the U.S. Army Corps of Engineers. A report shall be submitted to the CPUC at least 60 days before start of construction. Results of the delineation shall be utilized to define areas that are to be avoided in final tower siting and location of access roads and other project components. Consultation with the NPS will be initiated if wetland impacts are identified. Any impacts will be addressed by obtaining a USACE 404 permit and CDFG 1601 permit, and implementing the requirements of the permits and the Storm Water Pollution Prevention Plan.	PG&E & Contractor	Prior to construction
Protect Wildlife During Construction (B-5a in FEIR). In order to reduce direct mortality impacts during construction, PG&E shall impose the following conditions on all construction personnel. • Pre-construction surveys for ground-nesting avian species shall be conducted prior to construction in non-urban areas. If nests of ground-nesting species are identified within or near work areas that could be impacted by construction activities, measures to avoid or minimize impacts shall be developed during consultation with the resource agencies and implemented in the project area. These could include a work restriction in some areas during the breeding and fledging season (typically April 1 to August 31). • Additional mitigation may include establishment of an avoidance buffer (the distance of the buffer shall be developed in consultation with the agencies and shall vary depending on species sensitivity, topography, tree cover, terrain, proximity to roads/highways, etc.); and use of an on-site biological monitor to monitor for signs of disturbance. If the monitor determines that a disturbance is occurring, construction shall be halted, and the agencies shall be contacted as to the measures that shall be implemented. • Vehicles operating within the ROW and on non-public dirt access roads shall not exceed a 10 mph speed limit. Crew compliance will be monitored periodically. • Litter or other debris that may attract animals shall be removed daily from the project area;	PG&E & Contractor	Prior to construction

organic waste shall be stored in enclosed receptacles, removed from the project site daily, and disposed of at a suitable waste facility. • No pets shall be allowed in the construction area, including access roads and staging areas. • Construction crews shall be educated regarding sensitive wildlife that could be encountered on access roads and how to safely avoid them. Crew behavior shall be monitored by a qualified biologist approved by CPUC.		
Prepare Bird Collision Study or Install Flight Diverters (B-7a in FEIR). At least 60 days prior to installation of conductors, PG&E shall either (a) perform a study to determine the potential for bird strikes and then, depending on study results, install bird strike diverters, or (b) install bird strike diverters.	PG&E & Contractor	Prior to construction
Protection for Special Status Wildlife Species (B-8a in FEIR). The actions required below for protection of specific wildlife species shall be clearly defined by PG&E in a Special Status Wildlife Protection Plan provided to the CPUC for review and approval 60 days before the start of construction. The Plan shall define the specific areas in which each species is expected to occur, the results of completed surveys and schedule for completing all pre-construction surveys and seasonal surveys conducted prior to construction, and specific protective measures that will be taken during construction (including but not limited to those defined below). Where construction will occur within or near known or potential special-status species or their habitat, the Applicant shall perform the following actions: **California Red-Legged Frog**. Specific mitigation measures will be developed in coordination with the USFWS . Mitigation measures may include the construction of temporary exclusion fencing around the construction area combined with regular monitoring. The Applicant shall ensure that a qualified biological monitor be present at construction areas near known or potential habitat, and that BMP's, as included in the SWPPP, shall be implemented during construction to minimize impacts associated with erosion in the proximity of any identified habitat. **San Francisco Garter Snake.** Mitigation for potential impacts to SFGS shall include: • No construction activities shall occur within suitable SFGS breeding sites or SFGS wetland habitats • Consultation with the USFWS and CDFG shall be initiated by PG&E to define specific mitigation for potential impacts to SFGS, which may include: **1.** Structure construction (foundation construction and structure replacement	PG&E & Contractor	Prior to construction

activities) between Structures 12/79 and 14/95 shall be done between August 1 and November 1. **2.** If work must be done outside this timeframe, additional mitigation measures could include temporary exclusion fencing and/or biological monitoring as approved by USFWS. **3.** Project activities in potential dispersal and overwintering habitat shall be avoided and/or minimized to the greatest degree possible. **4.** Additional trapping and visual surveys shall be conducted at the following locations during the Spring 2004 activity period (March through May) to determine the type and extent of specific protective measures needed. **Raptor Species.** PG&E shall avoid disturbance to active raptor nests at all locations. Pre-construction surveys shall be performed in all non-urban areas to identify potential raptor nesting sites within or near the ROW during the breeding season.		
Consultation with Resource Agencies (B-8b in FEIR). PG&E shall initiate ESA section 7 Consultation with the U.S. Fish & Wildlife Service for federally listed species and CESA 2080 Consultation will be initiated with the California Department of Fish and Game for State-listed species. These consultations shall determine requirements for obtaining a (FWS) Biological Opinion and/or (CDFG) Incidental Take Permit. PG&E shall obtain any such required Biological Opinion or Incidental Take Permit and, in that process, shall work cooperatively with the appropriate agency or agencies to develop appropriate mitigation measures to offset impacts to the affected species. PG&E shall thereafter implement all mitigation requirements of the FWS and/or CDFG that result from these consultations and shall provide evidence of implementation to the CPUC.	PG&E	Prior to construction
Pre-Construction Tree Surveys (APM Bio-1 in FEIR). Standards for maintenance, management, and preservation of native and indigenous trees are established in the San Mateo County Heritage Tree Ordinance and the San Mateo County Significant Tree Ordinance. Tree removal permits or approvals for lost heritage or significant trees will be obtained and mitigation will be coordinated, as required, with the appropriate public and resource agencies. Mitigation for lost trees may not be implemented within the ROW due to fire safety concerns, and instead may be implemented in an alternative, agency-approved location.	PG&E & Contractor	Prior to construction
Erosion Control and Revegetation Plan (APM Bio-5 in FEIR). Following the completion of construction, all affected habitats will be restored using a mixture of custom-collected native grass species appropriate to the area. The Best Management Practices (BMP's) included in the	PG&E & Contractor	Prior to construction /during

Stormwater Pollution Prevention Plan (SWPPP) will be implemented during construction to minimize impacts associated with erosion. BMP's will include the installation of sediment and erosion control structures to protect biological resources, including streams, as well as roadways and adjacent properties. Watering for dust control during construction will also be employed.		construction
Construction of Bird-Safe Structures (APM Bio-8 in FEIR). PG&E will construct the new overhead portion of the electric transmission line to ensure that it is bird-safe. The configuration for each structure will meet or exceed APLIC guidelines.	PG&E & Contractor	Prior to construction
Raptors (APM Bio-16 in FEIR). Pre-construction surveys for raptors will be conducted prior to the start of construction. If the results of the pre-construction surveys indicate that a nesting raptor is present within or near work areas, mitigation measures will be developed during consultation with resources agencies and one or more of the following measures will be implemented: • Enforcement of work restrictions, such that construction activities occur outside of the applicable nesting/fledging period (typically March 1 to August 1); • Establishment of an avoidance buffer (the distance of the buffer will be developed in consultation with the agencies and will vary depending on species sensitivity, topography, tree cover, terrain, proximity to roads/highways, etc.); and/or • Use of an on-site biological monitor to monitor for signs of disturbance. If the monitor determines that a disturbance is occurring, construction will be halted, and one of the above measures will be implemented. • If these measures cannot be feasibly accommodated, PG&E will discuss other measures with resource agencies, including potentially obtaining a permit from USFWS to move the nest and/or fledglings.	PG&E & Contractor	Prior to construction
CULTURAL RESOURCES		
Cultural Resources Treatment Plan (CRTP) (C-1b in FEIR**).** PG&E shall develop a CRTP for Archaeological High-Probability Areas, including procedures for protection and avoidance of Environmentally Sensitive Areas (ESAs), and 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; duration 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). The CRTP shall be submitted to the CPUC	PG&E & Contractor	Prior to construction /During Constructio n

for review and approval at least 30 days before the start of construction.		
Construction Personnel Training (APM 7.2 in FEIR). 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 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.	PG&E & Contractor	Prior to construction /During construction
GEOLOGY, SOILS, & PALENTOLOGY		
Perform Geotechnical Studies (G-1a in FEIR). The Applicant shall perform design-level geotechnical studies to identify areas of soft or loose soils along the alignment where they may affect structure footing excavation stability and/or access roads. Where soft or loose soils are found, Best Management Practices (BMP's) shall be followed for avoidance, improvement, or replacement of affected soil areas. BMP's shall be identified and provided to the CPUC and SFPUC for review and approval at least 60 days before construction.	PG&E & Contractor	Prior to construction
Protect Against Slope Instability (G-2a in FEIR). Appropriate support and protection measures shall be implemented to maintain the stability of excavations and protect surrounding structures and utilities to limit ground deformation. Design-level geotechnical investigations shall be performed to evaluate subsurface conditions, identify potential hazards, and provide information for development of excavation plans and procedures. Appropriate construction methods and procedures, in accordance with State and federal health and safety codes, shall be followed to protect the safety of workers and the public during trenching and excavation operations.	PG&E & Contractor	Prior to construction
Consult a Paleontologist (G-3a in FEIR). Prior to construction, a qualified paleontologist shall be consulted regarding the likelihood of encountering significant fossils along specific segments of the approved alignment. If the paleontologist determines fossils may be present, a paleontologic monitor shall be present at each excavation that penetrates undisturbed native soil or rock (not fill or Franciscan rock) that has been identified by the paleontologist as moderately to highly sensitive. Typical samples for microfossils shall be collected and any significant megafossils that are found shall be prepared for curation by the paleontologist and donated to a public museum such as the Museum of Paleontology at the University of California at Berkeley.	PG&E & Contractor	Plan completed. Implement during construction
Geotechnical Investigations for Liquefaction and Slope Instability (G-6a in FEIR). Since seismically induced ground failure has the potential to damage or destroy project components,	PG&E & Contractor	Prior to construction

the Applicant shall perform design-level geotechnical investigations to assess the potential for liquefaction, lateral spreading, seismic slope instability, and ground-cracking hazards to affect the approved project and all associated facilities. Where these hazards are found to exist, appropriate engineering design and construction measures shall be incorporated into the project designs. Appropriate measures could include construction of pile foundations, ground improvement of liquefiable zones, installation of flexible bus connections, and incorporation of slack in underground cables to allow ground deformations without damage to structures.		
Geotechnical Surveys for Landslides (G-7a in FEIR). The Applicant shall perform design-level geotechnical surveys to evaluate the potential for unstable slopes, landslides, earth flows, and debris flows along the approved transmission line route and in the vicinity of other project facilities. Based on these surveys, approved project facilities shall be located away from very steep hillsides, debris-flow source areas, the mouths of steep sidehill drainages, and the mouths of canyons that drain steep terrain.	PG&E & Contractor	Prior to construction
Minimize Project Structures Within Active Fault Zone (G-8a in FEIR). Any crossing of an active fault (overhead or underground) shall be made as close to perpendicular to the fault as possible to make the segment cross the shortest distance within an active fault zone. For crossings of active faults with overhead transmission lines, the structures shall be placed as far as feasible outside the area of mapped fault traces. For aboveground installations such as transition stations, PG&E shall follow standard design codes for facilities in seismic zones.	PG&E & Contractor	Prior to construction
Overhead Transmission Lines (APM 10.2 in FEIR). For overhead transmission lines, site-specific geotechnical investigations will be performed at proposed structure locations to evaluate the potential for fault surface rupture. Where significant potential for fault surface rupture exists, structure locations will be adjusted as possible. Incorporation of standard engineering practices as part of the Project will ensure that people or structures are not exposed to fault rupture hazards.	PG&E & Contractor	Prior to construction
Implement Standard Engineering Methods for Problematic Soils (G-9a in FEIR). The Applicant shall perform design-level geotechnical studies to identify areas with potentially problematic soils and develop appropriate design features, including excavation of potentially problematic soils during construction and replacement with engineered backfill, ground-treatment processes, redirection of surface water and drainage away from expansive foundation soils.	PG&E & Contractor	Prior to construction
Implement Standard Engineering Methods for Corrosive Soils (G-11a in FEIR). The Applicant shall perform design-level geotechnical studies to identify the presence, if any, of potentially detrimental soil chemicals, such as chlorides and sulfates. Appropriate design measures for protection of reinforcement, concrete, and metal-structural components against	PG&E & Contractor	Prior to construction

corrosion shall be utilized, such as use of corrosion-resistant materials and coatings, increased thickness of project components exposed to potentially corrosive conditions, and use of passive and/or active cathodic protection systems.		
HYDROLOGY & WATER QUALITY		
Erosion and Sedimentation Control (H-1a in FEIR). An Erosion Control and Sediment Transport Plan, Stormwater Pollution Prevention Plan, and Revegetation Plan shall be developed and implemented. These plans shall be reviewed and approved by the SFPUC for those portions of the project within the Peninsula Watershed, for compliance with the Peninsula Watershed Plan prior to initiation of construction.	PG&E & Contractor	Prior to construction and during construction
Environmental Training and Monitoring Program (APMs 9.2 and 11.1 in FEIR). An environmental training program will be established to communicate environmental concerns and appropriate work practices, including spill prevention and response measures and proper BMP implementation, to all field personnel. The training program will emphasize site-specific physical conditions to improve hazard prevention (e.g., identification of flow paths to nearest waterbodies) and will include a review of all site-specific plans, including but not limited to the Project's SWPPP, Erosion Control and Sediment Transport Plan, Health and Safety Plan, and Hazardous Substances Control and Emergency Response Plan. A monitoring program will also be implemented to ensure that the plans are followed throughout the construction period. BMP's, as identified in the Project SWPPP and Erosion Control and Sediment Transport Plan, will also be implemented during the Project to minimize the risk of an accidental release and provide the necessary information for emergency response.	PG&E & Contractor	Prior to construction During construction
Hazardous Substance Control and Emergency Response Plan (APMs 9.3 and 11.2 in FEIR). PG&E will prepare a Hazardous Substance Control and Emergency Response Plan that will include preparations for quick and safe cleanup of accidental spills. This plan will be submitted with the grading-permit application. It will prescribe hazardous-materials handling procedures to reduce the potential for a spill during construction, and will include an emergency response program to ensure quick and safe cleanup of accidental spills. The plan will identify areas where refueling and vehicle-maintenance activities and storage of hazardous materials, if any, will be permitted. These directions and requirements will also be reiterated in the Project SWPPP. Care shall be exercised to minimize, contain and properly dispose of paint flakes generated during removal and dismantling of equipment or tubular steel poles coated with lead-based paint. Poles shall be dismantled on paved surfaces or protective sheeting on soil areas to facilitate collection	PG&E & Contractor	Prior to construction

of the paint flakes.		
Flood Damage Prevention (H-4a in FEIR). Aboveground project features such as power poles, substations, and transfer stations shall be placed outside the flow path of watercourses unless an engineering analysis, reviewed and approved by the California Public Utilities Commission and San Francisco Public Utilities Commission (for areas within the Peninsula Watershed), demonstrates that watercourse avoidance is not practicable, and that appropriate measures, such as installation of bank protection or raising foundations above flood levels, have been taken to identify and prevent potential flooding and erosion hazards.	PG&E & Contractor	Prior to construction
Phase II Soil Sampling/Waste and Groundwater Characterization (APMs 9.5, 11.4, 11.5 in FEIR). Soil sampling and potholing will be conducted before construction begins, and soil information will be provided to construction crews to inform them about soil conditions and potential hazards. If hazardous substances are unexpectedly encountered during trenching, work will be stopped until the material is properly characterized and appropriate measures are taken to protect human health and the environment. If excavation of hazardous materials is required, they will be handled in accordance with applicable regulations. Prior to initiating excavation activities at structure locations and along the underground transmission-line routes, soil borings will be advanced to identify areas where contaminated groundwater may be contacted. The location, distribution, or frequency of such tests will give adequate representation of the conditions in the construction area. If suspected contaminated groundwater is encountered in the depths of the proposed construction areas, samples will be collected and submitted for laboratory analysis of petroleum hydrocarbons, metals, volatile organic compounds, and semi-volatile organic compounds. If necessary, groundwater will be collected during construction, contained, and disposed of in accordance with all applicable regulations. Appropriate personal protective equipment will be used and waste management will be performed in accordance with applicable regulations.	PG&E & Contractor	Prior to construction
PUBLIC HEALTH & SAFETY		
Conduct Phase II Investigation (HAZ-2a). A Phase II investigation shall be conducted for the project prior to commencement of construction activities. The investigation shall include a review of current status from agency files of listed contaminated sites presented in the summary tables for each alignment or substation. This review shall include the concentration and limits of contamination, type of release, and media affected. Soil sampling and laboratory testing shall be	PG&E & Contractor	Prior to construction

conducted at locations along the project route where known contaminated sites are within 0.25 miles of the alignment or are determined to pose a threat to the project based on the results of agency file review. Subsurface investigation shall determine appropriate worker protection and hazardous material handling and disposal procedures appropriate for the subject area. Areas with contaminated soil and/or groundwater determined to be hazardous waste shall be removed by personnel who have been trained through the OSHA recommended 40-hour safety program (29CFR1910.120) with an approved plan for groundwater extractions, soil excavation, control of contaminant releases to the air, and off-site transport or on-site treatment. Results of the agency file review and Phase II investigations shall be reviewed and approved by the San Mateo County's Environmental Health Division and/or DTSC prior to construction.		
Hazardous Substance Control and Emergency Response Plan (APMs 9.3 and 11.2 in FEIR). PG&E will prepare a Hazardous Substance Control and Emergency Response Plan, which will include preparations for quick and safe cleanup of accidental spills. It will prescribe hazardous-materials handling procedures for reducing the potential for a spill during construction, and will include an emergency response program to ensure quick and safe cleanup of accidental spills. The plan will identify areas where refueling and vehicle maintenance activities and storage of hazardous materials, if any, will be permitted.		
RECREATIONAL EXPERIENCE		
Avoidance of Peak Use Periods and On-Site Notification (R-2a in FEIR). PG&E shall not schedule construction during peak use periods, (i.e., weekends and holidays) for recreational facilities listed below. In addition, PG&E shall provide onsite notification of recreational access closures at least two weeks in advance, through the posting of signs and/or notices at all public entrances.	PG&E & Contractor	Prior to construction
Public Information Program (APM 5.2 in FEIR). A public-liaison representative will provide the public with advance notification of construction activities. Concerns related to dust, noise, odor, and access restrictions associated with construction activities will be addressed within this program.	PG&E	Prior to construction /During construction
Coordinate Activities Affecting Parklands Trail Systems (APM 5.4 in FEIR). All construction activities, including temporary trail closures, affecting the parklands and trail systems of the Peninsula Watershed Lands will be coordinated, respectively, with the SFPUC and San Mateo County Parks and Recreation Department at least 30 days before construction begins in these areas.	PG&E & Contractor	Prior to construction /During construction
Signs Directing Vehicles to Alternative Park Access (APM 5.5 in FEIR). Signs directing vehicles to alternative park access and parking will be posted in the event construction temporarily obstructs parking areas near trailheads.	PG&E & Contractor	Prior to construction /During

		construction
Coordination with Parks (APM 5.6 in FEIR). PG&E will coordinate with city/county officials with jurisdiction over local parks near the route at least 30 days prior to construction.	PG&E	Prior to construction /During construction
Signs Advising Recreation Users of Alternative Trails or Bikeways (APM 5.7 in FEIR). Signs advising recreation users of construction activities and directing them to alternative trails or bikeways will be posted on both sides of all trail intersections or as determined through PG&E coordination with the respective jurisdictional agencies.	PG&E & Contractor	Prior to construction /During construction
Helicopter Notification (APM 5.8 in FEIR). Where helicopters are used for construction, signage advising equestrians of construction timeframes with helicopter use will be posted at all equestrian trail-access points within the vicinity of the flight paths. These signs will be checked and maintained daily.	PG&E & Contractor	Prior to construction /During construction
Visual Impact Minimization (V-1a in FEIR) Reduce visibility of construction activities and equipment.	PG&E & Contractor	During construction
Provide Public Liaison Person and Toll-Free Information Hotline (L-4b in FEIR). PG&E shall identify and provide a public liaison person before and during construction to respond to concerns of neighboring residents about noise, dust, and other construction disturbance. (APM Procedures for reaching the public liaison officer via telephone or in person shall be included in notices distributed to the public in accordance with Mitigation Measure L-4a in FEIR that requires construction notification in papers). PG&E shall also establish a toll-free telephone number for receiving questions or complaints during construction and shall develop procedures for responding to callers. Procedures shall be submitted to the CPUC for review and approval prior to construction.	PG&E	Pre-construction completed; during construction
AIR QUALITY		
Control Dust Emissions (A-1a, APMs 14.1 and 14.2 in FEIR) All personnel working on the Project will be trained prior to starting construction on methods for minimizing air-quality impacts during construction. BAAQMD Control Measures for Construction Emissions of PM_{10} will be implemented.	PG&E & Contractor	Pre-construction and during construction
Control Exhaust Emissions (A-2a in FEIR) The following measures shall be implemented during construction:	PG&E & Contractor	During construction

• Construction workers shall carpool when possible. • Vehicle idling time shall be minimized (i.e., 5-minute maximum). • Alternatively fueled construction equipment shall be used where feasible. • Equipment shall be properly tuned and maintained. PG&E shall document compliance with this measure by developing and implementing an exhaust emission reduction plan. The plan shall document the approach for ensuring carpooling, use of alternatively fueled vehicles, and shall define how and where records of equipment tuning and maintenance will be kept for CPUC review during construction.		
NOISE		
Mandatory mitigation measures for noise impacts include: • Install portable barriers to shield compressors and other small stationary equipment where necessary. • Use of "quiet" equipment (i.e., equipment designed with noise-control elements). • Route truck traffic away from noise-sensitive areas, where feasible. • Install sound barriers for pile driving activity, where practicable (e.g., use an acoustic curtain or blanket around the point of impact). • Limit pickup trucks and other small equipment to an idling time of 5 minutes, observe a common-sense approach to vehicle use, and encourage workers to shut off vehicle engines whenever possible. (Note: larger vehicles, such as large diesel vehicles, require extended warm-up times after startup. Some equipment will remain running when required for repetitive tasks or to power other equipment).	PG&E & Contractor	Prior to construction /During construction

TRANSPORTATION & TRAFFIC		
Prepare Transportation Management Plans (T-1a in FEIR). Prior to the start of construction, PG&E shall submit Traffic Management Plans (TMPs) to all agencies with jurisdiction of public roads that would be affected by overhead and underground construction activities as part of the required traffic encroachment permits. TMPs shall define the locations of all roads that would need to be temporarily closed due to construction activities, including aerial hauling by helicopter, hauling of oversized loads by truck, and due to conductor stringing activities.	PG&E & Contractor	Prior to construction
Restrict Lane Closures (T-1b in FEIR). PG&E shall restrict all necessary lane closures or obstructions on major roadways associated with overhead or underground construction activities to off-peak periods in urbanized areas to mitigate traffic congestion and delays.	PG&E & Contractor	Prior to construction /During construction
Ensure Emergency Response Access (T-6a in FEIR). PG&E shall coordinate in advance with emergency service providers to avoid restricting movements of emergency vehicles. Police departments, fire departments, ambulance services, and paramedic services shall be notified in advance by PG&E of the proposed locations, nature, timing, and duration of any construction activities and advised of any access restrictions that could impact their effectiveness. At locations where access to nearby property is blocked, provision shall be ready at all times to accommodate emergency vehicles, such as plating over excavations, short detours, and alternate routes in conjunction with local agencies. Traffic Control Plans shall include details regarding emergency services coordination and procedures, and copies shall be provided to all relevant service providers.	PG&E & Contractor	Prior to construction During construction
Pedestrian Facility Provisions (APM 13.8 in FEIR). Where construction will result in temporary closures of sidewalks and other pedestrian facilities, PG&E will provide temporary pedestrian access, through detours or safe areas along the construction zone. Any affected pedestrian facilities and the alternative facilities or detours that will be provided will be identified in the TMP. Where construction activity will result in bike lane closures, appropriate detours and signs will be provided.	PG&E & Contractor	Prior to construction
Mitigation Measure to Repair Damaged Roads. If damage to roads occurs as part of construction of the Overhead Route, PG&E will coordinate repairs with the SFPUC to ensure that impacts are adequately repaired.	PG&E & Contractor	After construction

Chapter 3: ENVIRONMENTAL CONSEQUENCES

3.1 Introduction

The National Environmental Policy Act requires that environmental documents disclose the environmental impacts of a proposed federal action, reasonable alternatives to that action, and any adverse environmental effects that cannot be avoided should the proposed action be implemented. NEPA requires consideration of context, intensity, and duration of impacts, indirect impacts, cumulative impacts, and measures to mitigate impacts. NPS policy also requires that "impairment" of resources be evaluated in all environmental documents.

Usually, *Affected Environment* and *Environmental Consequences* sections of environmental assessments are separated into two different chapters. This EA discusses the affected environment and identifies impacts of the alternatives in the same chapter, eliminating the need for the reader to flip back and forth between chapters. Cumulative impacts and impairment are discussed at the end of each resource section.

The analysis of impacts is limited to portions of the Jefferson-Martin transmission line within NPS Easement boundaries. The Proposed Federal Action, NPS's acceptance of PG&E's Settlement Agreement, would result in 1) construction and operation of the CPUC-approved project; 2) funding for additional trail/recreation improvements; and 3) participation in acquisition and conservation of open space land. Trail improvements, depending on their type and location, could have some potential environmental consequences. However, because neither the location nor the type of potential improvements is known at this time, the potential consequences of these actions cannot be known and remain too speculative to address here. Acquisition and conservation of an existing parcel, while having the general benefit of being under NPS land management policies, would not in itself have impacts to natural and cultural resources unless some level of improvements were anticipated to accompany the conservation. Acquisition of current open space would merely maintain the status quo and not affect the environmental baseline. The impacts of the Proposed Federal Action then would be limited to impacts associated with the construction of the overhead route of the CPUC-approved project. Environmental consequences and benefits associated with the implementation of specific projects funded by compensation measures in the Settlement Agreement would be addressed in separate subsequent environmental review, as required, prior to the implementation of those specific actions.

Following this introduction, the chapter presents the methodologies used in the environmental impact analysis. The impact analyses sections are organized by resource topic. Much of the information contained within this document is based on information

presented in the Final Environmental Impact Report for the Jefferson-Martin 230 kV Transmission Project (FEIR) (CPUC, 2003).

3.2 General Methodology

In order to determine potential areas of concern and to assess impacts, the NPS reviewed the FEIR, conducted a site visit, met with and spoke to PG&E staff and consultants, and discussed this project with NPS resource specialists. Whenever possible, quantitative data was used to determine the intensity of the effect, by looking at the change between the baseline conditions and the proposed action. Regulatory and statutory standards, as well as relevant literature, were used to judge the level of the effect. Methods employed also included consultation with subject matter experts and resource agencies. NPS planning/NEPA documents were reviewed to help determine impact thresholds for the various impact topics evaluated in this chapter. If quantitative data was not available, the impact analyses were based on best professional judgment using information provided by park staff, relevant references, and technical literature citations.

3.2.1 Context, Duration, Intensity, and Type of Impact

The NPS has assessed both direct impacts (an effect that is caused by an action and occurs at the same time and place) and indirect impacts (an effect that is caused by an action but is later in time or farther removed in distance, but still reasonably foreseeable). The analysis of environmental impacts considers the context, duration, intensity, and type of impact, as defined below.

Context
The context of the impact considers whether the impact would be local or regional. For the purposes of this analysis:

- ***Local impacts*** would generally be those that occur within the immediate vicinity of the proposed CPUC-approved transmission line corridor and existing and proposed PG&E ROW in the San Francisco Peninsula Watershed.
- ***Regional impacts*** would be those that occur on surrounding San Francisco Peninsula Watershed lands and in adjacent communities.

Duration
The duration of the impact considers whether the impact would occur in the short term or the long term.

- ***Short-term*** impacts are temporary, transitional, or construction-related impacts associated with project activities.
- ***Long-term*** impacts are typically those effects that would last several years or more or would be permanent.

Intensity
Intensity is a measure of the severity of an impact. The intensity of the impact considers whether the effect would be negligible, minor, moderate, or major.

- ***Negligible*** impacts would not be detectable and would have no discernible effect.

- ***Minor*** impacts would be slightly detectable, but would not be expected to have an overall effect.
- ***Moderate*** impacts would be clearly detectable and could have an appreciable effect.
- ***Major*** impacts would have a substantial, highly noticeable effect.

Type of Impact
Impacts were evaluated in terms of whether they would be beneficial or adverse.

- **Beneficial impacts** would improve resources/conditions.
- **Adverse impacts** would deplete or negatively alter resources/conditions.

Impacts to natural resources considered significant are those that would:

- Violate any environmental law or regulation designed to protect wildlife, fisheries, plant species, or habitat areas.
- Affect a special-status species or cause a net change to the habitat of the species.
- Change the ability of any resident or migratory fish or wildlife species to move.
- Cause measurable changes in species composition or abundance of a community with special-status.
- Cause damage to the project site or adjacent property from existing or potential geologic hazards including landslides, erosion, or slope instability.

Impacts to cultural resources considered significant are those that would:

- Conflict with resource protection measures established by local, state, or federal regulatory programs.
- Cause direct or indirect adverse effects to prehistoric or historic archaeological sites listed or eligible for listing on the National Register of Historic Places or the California Register of Historic Resources, or that contribute to a National Historic Landmark District.
- Interfere with established recreational, educational, religious, or scientific uses of the project site.
- Disturb any human remains.

Project related impacts to visitor use and experience would be significant if visitor attendance was estimated to decrease in the long-term or if the type of uses available to visitors would be adversely altered, resulting in a long-term, decrease of visitor enjoyment.

3.3 Mitigation Measures

According to the Council on Environmental Quality (Sec. 1508.20) "mitigation" includes:
(a) Avoiding the impact altogether by not taking a certain action or parts of an action.
(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.

(c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
(e) Compensating for the impact by replacing or providing substitute resources or environments.

Mitigation measures discussed in this document for Alternative 1: Proposed Project and Agreement are listed in Table 4 in Section 2.7. All of these mitigation measures will be implemented if Alternative 1 is selected and constructed. The CPUC ensures compliance with mitigation measures by monitoring their implementation prior to and during construction. Applicant Proposed Measures (APM) are those measures that PG&E proposed to implement. Other mitigation measures were developed by the CPUC during the CEQA process. All mitigation measures, with the exception of those tied to the Settlement Agreement, are described in detail in the FEIR.

NPS compensation measures associated with the Agreement are listed in this EA, but are not described in detail. These include the acquisition and conservation of key open space lands, and improvements to recreational, scenic, and/or open space values within the GGNRA, or on land contiguous with the GGNRA boundary. The NPS will ensure that compensation tied to the Agreement will be implemented. Any impacts that may result as a consequence of implementation of the mitigation would be addressed in separate subsequent environmental review.

3.4 Cumulative Effects Analysis Method

The Council on Environmental Quality (1978) regulations for implementing the National Environmental Policy Act requires assessment of cumulative effects in the decision-making process for federal actions. A cumulative impact is described in regulations developed by the Council on Environmental Quality, Regulation 1508.7, as follows:

> A "cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Cumulative effects are considered for both the action alternative and the no action alternative. Cumulative effects were determined by combining the effects of the alternative with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other past, ongoing, or reasonably foreseeable future actions within the Cumulative Project Area. The Cumulative Project Area includes portions of the San Francisco Peninsula Watershed surrounding San Andreas Lake and adjacent communities in San Bruno. Projects were determined by reviewing the SFPUC Peninsula Watershed-Special Project Work Program that list all of the current projects

occurring on their land in the watershed, and discussing projects with SFPUC staff. NPS documents, the Peninsula Watershed Management Plan (SFPUC, 2002) and the FEIR were also reviewed. Because most of the cumulative projects are in the early planning stages, the evaluation of cumulative impacts was based on a general description of the projects.

Cumulative effects are evaluated under each impact topic addressed in this chapter. Actions identified by the NPS that have the potential to have a cumulative effect in conjunction with the PG&E transmission line project include:

Skyline Boulevard Widening: Skyline Boulevard is proposed to be widened to 2 lanes in each direction to match other segments. The Project would start at Sneath Lane and go south to Interstate 280 (I-280).

Cellular Sites: Wireless telecommunication facilities (WTF) have been located along I-280. I-280 is a Scenic Highway and preservation of its scenic character was the purpose of the Easements granted to the DOI/NPS. Therefore, the WTF have been located in disturbed areas that have minimal impacts on the environment. The SFPUC has entered into agreements for WTF at the following locations within the NPS Easements (GGNRA, 2003):

- 2 WTF at the Crystal Springs Golf Course located at PG&E power lines.
- 3 WTF near Edgewood Road and I-280 located at PG&E transmission towers.
- 1 WTF on Highway 92 west of I-280 within an inholding area.
- 1 WTF north of San Andreas Lake.

The California Department of Transportation has entered into agreements for WTF at the following locations adjacent to the NPS Easements:

- 5 WTF at the former I-280 Vista Point.
- 2 WTF adjacent to the Father Junipero Serra statue east of I-280.

Church of the Highlands 103-Car Parking Lot: A parking lot has been recently constructed on the northwest corner of San Bruno Avenue at Glenview Drive (at the proposed transition station site) in San Bruno. The 103-car capacity parking lot may also be used for trailhead parking (CPUC, 2003).

Townhouses: Construction of six townhouses on the northeast corner of San Bruno Avenue at Glenview Drive in San Bruno is proposed (CPUC, 2003).

SFPUC ongoing maintenance activities: The SFPUC manages the San Francisco Peninsula Watershed lands. As managers, they are responsible for upgrading and maintaining the watershed facilities and lands according to the Peninsula Watershed Management Plan (see Section 1.6 in Chapter 1). Activities that the SFPUC has recently completed or that are ongoing include: Mulching of vegetation that encroaches on transmission lines, hazardous tree maintenance and removal, control burns, repair and replacement of fence, replacement of pavement, vegetation cultivation and weedwacking, tree pruning, brush elimination, control burns, and watershed facilities demolition

(removal of dilapidated, abandoned, or duplicative structures). All trimming of trees is minor in nature to allow passage of vehicles and done after nesting season (SFPUC, 2002).

San Mateo County Recreation Trails: San Mateo County manages the recreational trails within the San Francisco Peninsula Watershed, with the exception of the Bay Area Ridge Trail. San Mateo County has developed a countywide *San Mateo County 2001 Trails Plan* that presents potential connector trails to the three Bay Area region-wide trail systems: the Bay Trail, Bay Area Ridge Trail, and Coastal Trail. The *Trails Plan* proposes connector trails between points on the trail systems and other County trails in County parks, open space preserves, public lands, and private lands, including the San Francisco Peninsula Watershed. Specific alignments within the Watershed lands are not proposed, nor have any agreements been established with other agencies, such as for rights-of-way on SFPUC-owned Watershed lands.

Cattle Hill Restoration Proposal: Cattle Hill is located adjacent to (west of) Sweeney Ridge, Pacifica, San Mateo County. Sweeney Ridge is presently part of GGNRA and Cattle Hill is presently owned by the city of Pacifica, and is proposed to become part of GGNRA. The objective of the project is to rehabilitate and restore the landscape on the damaged areas of Cattle Hill and realign the trail. Existing eroded ruts are up to 6 feet deep in several places. The prescription includes trailhead development; extensive restoration of severely eroded and damaged existing trail and landscape areas between trail segments; and establishment of a more sustainable multi-use trail route to the Sweeney Ridge property.

3.5 Impairment

Pursuant to the 1916 Organic Act, the National Park Service has a management responsibility "to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." As a result, the National Park Service cannot take an action that would "impair" the resources of the Golden Gate National Recreation Area. NPS Director's Order #12 requires that impairment be addressed in all environmental assessments and draft and final environmental impact statements, as well as in the corresponding decision documents (Finding of No Significant Impact for an EA).

Because there would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park's establishing legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or values. Impairment of park resources and values was evaluated on the basis of duration and intensity of impacts. Impairment is addressed in the *Conclusions* section found at the end of each impact topic in this chapter for both alternatives evaluated in this EA.

The National Park Service has determined that implementation of Alternative 1 and associated mitigation measures or Alternative 2 will not constitute impairment to the Golden Gate National Recreation Area's resources and values. This conclusion is based on a thorough analysis of the environmental impacts described in this EA and the FEIR, the mitigation measures, agency consultations, consideration of public comments received, relevant scientific studies, and the professional judgment of the decision-maker guided by the direction in NPS Management Policies 2001.

3.6 Visual Resources

3.6.1 Affected Environment

The alignment of the Proposed Project closely parallels I-280 and Skyline Boulevard, with San Andreas Lake to the west, at a distance varying from 500 to 1,000 feet (from Tower 11/72 to 12/82). The existing line is located along the edge of the lake (from Towers 13/83 to 13/85) for several spans before approaching Skyline Boulevard (see Figure 2). This portion of San Mateo County is known for its scenic qualities and aesthetic attributes and I-280 is a State-designated Scenic Highway. Skyline Boulevard is a San Mateo County designated Scenic Route and Skyline Boulevard and Trousdale Drive are locally designated Scenic Connectors. The San Francisco Peninsula Watershed lies to the west of I-280. Views of the overhead portion of the proposed project available from I-280 include: State highways and locals roads; San Andreas Reservoir; and Watershed open space lands, trails, and recreation facilities.

The Proposed Project is located in the San Francisco Peninsula Watershed, starting at Trousdale Drive and continuing northward for about 3.3 miles until the line crosses to the east side of Skyline Boulevard to the Glenview Drive transition structure. This structure is located in the City of San Bruno outside of the NPS Easement. The alignment passes west of, and across I-280 from a water filtration plant operated by the San Francisco Water Department; to the northeast of this facility and across I-280 and Skyline Boulevard from the line is the Junipero Serra County Park. North of the I-280/Skyline Boulevard split, the land east of I-280 passes into the jurisdiction of the City of San Bruno. The alignment continues in the San Francisco Peninsula Watershed west of Skyline Boulevard, with residential development to the east of Skyline Boulevard.

3.6.2 Applicable Regulations, Plans, and Standards

Public agencies and planning policy establish visual resource management objectives in order to protect and enhance public scenic resources. Goals, objectives, policies, and implementation strategies and guidance are typically contained in resource management plans, comprehensive plans and elements, and local specific plans. The San Mateo County General Plan, San Mateo County Trails Plan, and the Peninsula Watershed Management Plan contain multiple objectives, policies, designations, or guidance pertinent to visual resources for the 3.3-mile overhead portion of the Jefferson-Martin

Project (CPUC, 2003). These policies are intended to protect and enhance the existing natural quality of the project area; minimize adverse visual effects; protect the visual quality of reservoir shorelines and scenic corridors; minimize the adverse visual effects of utility structures; discourage and restrict construction of structures on open and forested ridgelines; and encourage PG&E to mitigate the adverse visual effects of large transmission lines. These planning directives and the consistency of the overhead portion of the Jefferson-Martin Project with them were addressed in the Section D.2.2 of the FEIR. The FEIR determined that, with effective implementation of the proposed mitigation measures, the transmission line project would be consistent with all relevant guidance.

NPS Scenic and Recreation Easements
The primary purpose for the Settlement Agreement and PG&E's proposed settlement, as described under Alternative 1 in this EA, is to settle a disagreement involving different interpretations of NPS Scenic and Recreation Easements over the San Francisco Peninsula Watershed lands (see Section 1.2.1 of this EA). The NPS believes that the Proposed Project will impact visual resources and that it is in conflict with the terms of the Easement. Measures proposed in the Agreement will help compensate for impacts to visual resources on NPS Easement lands.

3.6.3 Environmental Consequences

The visual resources of a given area consist of the landforms, vegetation, water features, and cultural modifications (physical changes caused by human activities) that impart an overall visual impression of the area landscape. There are a number of factors that were considered in the evaluation of a landscape's existing visual resources in order to assess the potential for one or more visual impacts to occur including: visual quality, viewer concern or sensitivity, and viewer exposure.

An adverse visual impact occurs within public view when: (1) an action perceptibly changes existing features of the physical environment so that they no longer appear to be characteristic of the subject locality or region; (2) an action introduces new features to the physical environment that are perceptibly uncharacteristic of the region and/or locale; or (3) aesthetic features of the landscape become less visible (e.g., partially or totally blocked from view) or are removed. Changes that seem uncharacteristic are those that appear out of place, discordant, or distracting. The degree of the visual impact depends upon how noticeable the adverse change may be. The noticeability of a visual impact is a function of project features, context, and viewing conditions (angle of view, distance, and primary viewing directions).

3.6.3.1 Alternative 1: Proposed Project and Agreement

Assessment of the likely visual impacts that would occur as a result of the Jefferson-Martin Project was accomplished in the FEIR by establishing representative viewpoints from which to conduct a detailed analysis of the project. At each of these key viewpoints, field analysis included assessment of visual contrast, project dominance, and

view blockage. Figures 4 and 5 in Chapter 2 show existing and simulated views along the Sawyer Camp Trail. For a detailed description and analysis of each of the Key Viewpoints, including Sawyer Camp Trail, San Andreas Trail, Sweeney Ridge, and Skyline Boulevard, that will be affected by Alternative 1, please see Visual Resources Section D.3 of the FEIR, Impact V-16 through V-20. Also provided in the Visual Resources section of the FEIR are all Key Viewpoint Existing Setting Photographs and Visual Simulations.

The following is a summary of the types of visual impacts that would occur if Alternative 1 were constructed, and mitigation measures that would be implemented to minimize impacts to visual resources.

Views from Sawyer Camp Trail, San Andreas Trail, Sweeney Ridge, and Skyline Boulevard would all be impacted by the construction of the Proposed Project (See Figures 4 and 5 in Chapter 2). Adverse visual impacts would occur with the visible presence of construction equipment, vehicles, materials, and personnel. Although project construction would result in visual impacts to people in or adjacent to the San Francisco Peninsula Watershed, the impacts will be short-term and minor to moderate. Impacts related to the structures and conductors would be of a greater magnitude. Impacts would be long-term, local and regional since they can be seen from distant ridgelines, and moderate in intensity. Many people recreate in the San Francisco Peninsula Watershed lands and adjacent park lands to escape urbanization and to experience nature. The Proposed Project would be a greater intrusion on their visual experience than the existing 60 kV transmission line because of the increased height of new towers and increased number of lines between each tower.

This portion of San Mateo County containing the Proposed Project is known for its scenic qualities and aesthetic attributes and I-280 is a State-designated Scenic Highway. Skyline Boulevard is a San Mateo County designated Scenic Route and Skyline Boulevard and Trousdale Drive are locally designated Scenic Connectors. The Proposed Project will impact the scenic quality of these scenic transportation corridors.

The overhead portion of the Proposed Project consists of the removal of 3.3 miles of the existing double-circuit 60 kV transmission line and replacing it with a new double-circuit transmission line consisting of a single 230 kV circuit and a single 60 kV circuit. The rebuilt line will utilize PG&E standard tubular steel pole 230 kV transmission structures, which will be approximately 13 feet taller than the existing structures, on the average, and as much as 64 feet higher (see Tables 1 & 2 in Section 2.1). The proposed tubular structures would appear noticeably more prominent than the existing 60 kV transmission line lattice pole structures from Skyline Boulevard. Approximately 25 existing structures will be replaced with 22 new structures (see Tables 1 and 2), most adjacent to their existing locations. Two new structures will be added. Some of these structures were removed or relocated in response to CPUC requirements for visual reroutes.

The Proposed Project will result in an expanded ROW width. Currently, the 60 kV transmission line ROW extends up to 50 feet. The ROW for the Proposed Project will be

increased to extend up to 100 feet. A wider ROW will result in increased numbers of trees that will have to be removed to provide for conductor clearance. Reduction in the number of trees would have a minor to moderate impact on visual resources. Mitigation measures described in the Biological Resources, Section 3.7 will help mitigate these effects.

The increase in structure height would result in new "skylining" (where the silhouette of the pole extends beyond the surrounding landscape) and would also cause a noticeable increase in the degree of structure prominence and industrial character. In some instances, visual contrast caused by the larger vertical, complex structures of the Proposed Project would be moderate-to-major and the project would appear co-dominant to dominant with the existing land, water, and vegetative forms. A change in structure size would also cause a moderate-to-high degree of view blockage of higher quality background features (vegetation and sky).

CPUC Required Mitigation from the FEIR:

Mitigation Measure to Relocate Structures: During the preparation of final construction plans, the CPUC FEIR required that PG&E consult with a visual specialist to ensure that impacts to visual resources were minimized. PG&E has worked with engineers and a visual specialist to reroute the transmission line and relocate structures to reduce the visual impact to a level that would be less than significant. Tower relocation, where possible, would reduce the visibility, prominence, and view blockage of some of the towers. Three towers were moved more than 100 feet from their existing locations (see Chapter 2, Figure 2).

Relocate proposed Structure 11/75 to the east as shown in Figure 2. This reroute would eliminate the visual prominence of Structure 11/75 on views from the Sawyer Camp Trail at San Andreas Lake Dam. In order to minimize impacts to a row of Monterey Cypress, a new structure, Structure 12/82a, was located on a hillside and Structures 13/83 and 13/84 were relocated to the north of their existing locations, allowing shorter spans that reduce the amount of tree removal in this area.

Mitigation Measure to Reduce Number of Structures: PG&E will remove 3 existing structures. However, two new structures will be added to the Project Area, for a net loss of 1 tower, somewhat offsetting the impact of increased tower size. The Elimination of Tower 14/92 along Skyline Boulevard results in a substantial reduction in structural prominence and industrial character. Further elimination of towers would require longer conductor spans. In some instances, the longer spans may in turn require taller towers (up to 30% taller). Therefore, it was determined that it was not preferable to remove additional towers.

Mitigation Measure to Install Non-Specular Conductors: PG&E will be installing non-specular (non-reflective) conductors (wires) on the Proposed Project. PG&E standard conductor is a specular surface; specular conductors are

the industry standard. The non-specular conductors will be used to minimize the visibility of the wires.

Mitigation Measure to Use Tubular Steel Poles: P&E shall use tubular steel poles rather than the lattice steel structures from Tower 10/69 to Tower 14/95. Although the tubular steel poles may be more prominent than the existing lattice structures from certain viewpoints, overall the tubular steel poles would simplify structural appearance, enable the structures to better blend in with adjacent trees and landscape, and reduce structural contrast. PG&E shall submit final construction plans demonstrating compliance with this measure to the CPUC for review and approval at least 60 days prior to the start of construction.

Mitigation Measure to Paint Poles: Appropriate structural painting to all tower locations along the Sawyer Camp Trail will better blend the towers with the existing landscape, further reducing the degree of visual impact. Structures that are visible from more than one sensitive viewing location may require more than one color if backdrops are substantially different when viewed from different vantage points. North-facing structural surfaces with a light sky background should be painted a neutral, non-reflecting gray color. However, structures back dropped by green, vegetated landforms should be painted a neutral green color to more effectively blend with the background vegetation. PG&E has submitted a tower paint plan demonstrating compliance with this measure to the CPUC for review and approval.

Vegetation Management Mitigation: In order to reduce the Project's potential to appear visually prominent as seen from the San Francisco Peninsula Watershed public recreation trails, PG&E shall, in consultation with the SFPUC Resource Management staff, install site-specific native tree and/or shrub plantings at key locations between the trails and those proposed replacement structures located in the immediate foreground of views from trails to partially screen views of the Proposed Project.

In consultation with the SFPUC Resource Management staff, PG&E shall install site-specific planting to partially screen views of the proposed replacement structures that would be seen along the skyline in foreground views from I-280. The trees shall be placed so as to maximize screening effect and to generally preserve existing open landscape vistas.

Informal planting of small trees and/or shrubs shall be installed intermittently at key locations along the west side of Skyline Boulevard in order to partially screen views of the proposed replacement poles. The plantings shall be spaced at sufficient intervals so as to allow intermittent open vistas toward the distant mountains.

In consultation with the SFPUC Resource Management staff, PG&E shall selectively prune trees and shrubs and/or remove trees in order to enhance views

and vistas seen from the I-280 corridor and key Watershed recreation trails. Pruning and tree removal implemented under this measure shall be consistent with existing SFPUC Watershed resource management plans and shall conform to SFPUC Watershed vegetation management policies.

All plant material will be native species appropriate to the Watershed lands and shall conform to the SFPUC Watershed vegetation management policies. The plantings shall also be consistent with CPUC and PG&E regulatory and technical requirements for landscaping in proximity to transmission lines.

Additional Mitigation

Compensation Measure to Purchase Open-Space Land for Conservation and Improve Recreational Opportunities: The mitigation described in the proposed Settlement Agreement would allow for the preservation of key open space lands and the improvement of recreational opportunities within GGNRA. Under the Agreement, PG&E would provide funding up to a maximum of $1.5 million for land acquisition and improvements to recreational, scenic, natural, and/or open space lands. These measures would enhance visual resource opportunities within the GGNRA. Acquisition and management of open space land by the NPS would ensure that its scenic qualities could be enjoyed by the public in perpetuity, and that the land would not be developed.

3.6.3.2 Alternative 1 Cumulative Impacts

Cumulative impacts to visual resources would occur where project facilities occupy the same field of view as other built facilities or impacted landscapes. It is also possible that a cumulative impact could occur if a viewer's perception is that the general visual quality of an area is diminished by the proliferation of visible structures (or construction effects such as disturbed vegetation), even if the new structures are not within the same field of view as existing structures. The significance of the cumulative impact would depend on the degree to which (1) the viewshed is altered; (2) visual access to scenic resources is impaired; (3) scenic character is diminished; or (4) the project's visual contrast is increased.

The Proposed Project may be visible within the same field of view as some of the SFPUC maintenance activities. Adverse visual impacts would occur with the visible presence of construction equipment, vehicles, materials, and personnel. However, these visual impacts would be temporary and would not create significant cumulative effects.

The portion of the Proposed Project west of Skyline Boulevard near San Bruno Avenue would have limited visibility within the same field of view as the Church of the Highlands parking lot and the townhouses on Glenview Drive. The parking lot project would not noticeably change the existing landscape character and it would not exhibit the same or similar industrial character as that of the Proposed Project. The townhouse

project would be consistent with the suburban character of the area around this location and would not diminish the visual quality of the existing landscape.

The widening of Skyline Boulevard would be visible within the same field of view as the Proposed Project. The road-widening would not exhibit the same or similar industrial character as that of the Proposed Project, though it would contribute to the ongoing urbanization of the area. The cumulative impacts of these projects would be adverse, but not collectively significant.

3.6.3.3 Alternative 1 Conclusion

With implementation of the mitigation measures, Alternative 1 would have local and regional, long-term, moderate, adverse effects on visual resources. Without mitigation, effects of the Proposed Project would have a moderate to major impact. Effects to the visual quality of the landscape would be readily detectable, and may have adverse consequences to visitor experience in the region. Extensive mitigation measures included as part of the project will be implemented to minimize the effects to a moderate level.

Because there would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park's establishing legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or value related to visual resources.

3.6.3.4 Alternative 2: No Action Alternative

There is currently a 60 kV transmission line that crosses through the San Francisco Peninsula Watershed. This line is over 50 years old and was built before the Department of the Interior was granted a Scenic and Recreation Easement over the land. Aside from the intrusion of a transmission line in a natural area administered by the NPS (which was a preexisting condition), the only impacts related to the No Action Alternative involve inspection and maintenance of the facilities. Effects to the visual quality of the landscape associated with maintenance activities would likely be below the level of detection or small and of little consequence to visitor experience.

3.6.3.5 Alternative 2 Cumulative Impacts

The existing 60 kV transmission line through the San Francisco Peninsula Watershed was built before the Department of the Interior obtained a Scenic and Recreation Easement over the land. There would be no change to visual resources within the San Francisco Peninsula Watershed from construction related activities associated with Alternative 2. Continued maintenance and operation of the 60 kV transmission line, combined with SFPUC maintenance of the Peninsula Watershed, may result in minor cumulative impacts to visual resources.

3.6.3.6 Alternative 2 Conclusion

Alternative 2 would have local, long-term, negligible to minor, adverse effects on visual resources. Minor impacts may result from the operation and maintenance of the current 60 kV transmission line, which will continue as long as the line remains in operation. However, these impacts are infrequent and for most individuals who recreate in the San Francisco Peninsula Watershed, impacts would be below the level of detection.

Because there would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park's establishing legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or value related to visual resources.

3.7 Biological Resources

3.7.1 Affected Environment

The Proposed Project is located on the eastern border of the 23,000 acre San Francisco Peninsula Watershed. This area is owned by the City and County of San Francisco, managed by the SFPUC, and contains Recreation and Scenic Easements administered by the NPS as part of the GGNRA. The Watershed has remained relatively undisturbed by the surrounding urban development and serves as an important biological preserve for the region as recognized by its inclusion in the Central California Coast Biosphere Reserve. Biosphere reserves are designated by the United Nations Educational, Scientific and Cultural Organization (UNESCO) to serve as demonstration areas for cooperation in building harmonious relationships between human activities and the conservation of ecosystems and biological diversity. The project area is characterized by a diverse climate, topography, geology, and soils, which in turn is reflected in the diverse vegetation communities present. It provides important wildlife habitat. The diversity of upland and wetland habitats as well as its proximity to the San Francisco Bay and Pacific Ocean have also shaped this region as a migratory pathway and stop over for raptors, waterfowl, and songbirds. San Andreas Lake, a large freshwater reservoir, is located adjacent to the Proposed Project area.

The following section provides an overview of the biological resources that occur within the area of the Proposed Project. For a more detailed description, please refer to Section D.4, Biological Resources in the FEIR. The FEIR also provides a description of the vegetation communities found at each structure location, as well as access roads and cable pulling sites.

Vegetation Communities
A variety of vegetation types occur along the 3.3-mile overhead portion of the Proposed Project. The predominant upland vegetation communities that occur are coyote brush scrub, eucalyptus forest, coast live oak woodland, Monterey pine forest, Monterey cypress forest, and non-native grassland. Much of the project area supports wooded or forested habitat; however, based on analysis of historical aerial photographs provided by the SFPUC, most of the trees and shrubs onsite were planted and would not be expected to naturally occur in this area. Substantial human impacts to wetlands, woodlands, chaparral, and endemic native plant and animal populations have created a fragmented mosaic of isolated native natural communities (Murphy and Weiss & Weiss in CPUC, 2003). Wetland vegetation community types that occur in the Project area include seasonal wetlands, freshwater marsh and riparian habitat; these habitat types are discussed in the following section.

Wetlands and Other Aquatic Resources
Limited areas of wetlands occur along the overhead portion of the Project area, including seasonal wetlands, freshwater marsh, and intermittent drainages (including ditches and swales). In addition, the open water of San Andreas Lake parallels the project corridor to the west.

Wildlife
The area along the overhead portion of the Proposed Project provides habitat for many species of amphibians, reptiles, birds, and mammals. A detailed description of the different types of wildlife habitat that occur in this area is provided in the FEIR. Several special-status wildlife species may occur within the San Francisco Peninsula Watershed lands. An overview of potentially-occurring special-status wildlife species is provided below.

Special-Status Species
Special-status species surveys were conducted within a 100-foot-wide survey corridor centered on the current existing right-of-way (ROW) during the spring and summer of 2001 and 2002. In addition to the 100-foot-wide corridor, areas of potential impact near the ROW and access routes were also surveyed. The findings of these surveys are summarized below. Any areas affected by the project that may not have been included in these surveys (e.g., towers relocated for visual mitigation purposes, newly identified cable pull sites, staging areas, additional access roads) will be investigated during pre-construction surveys.

Rare Plants
Special-status plant species that are known to occur, or could potentially occur within the Proposed Project area were identified by searching the California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDB) "Rarefind" and the California Native Plant Society (CNPS) Electronic Inventory. Based on the results of the database searches, nine special-status plant species were identified as potentially occurring within the Project Area. A complete list of these species will be included in the Final Botanical Survey Report. The majority of these species are found in serpentine habitats, none of which occurs within the corridor of the Proposed Project.

Rare plant surveys were conducted by Dr. John Stebbins in 2001 and 2002. Subsequently, pre-construction surveys were conducted along the Proposed Project corridor during 2004. No special-status plant species were identified within the Proposed Project Corridor during any of these surveys. Prior to construction, PG&E will survey any newly-defined project areas (e.g., cable pull sites, access roads) that were not included in the original surveys. Pre-construction surveys will follow accepted agency protocols and will be conducted during the appropriate time of year necessary to identify the presence or absence of species.

Special-Status Wildlife
Based on a literature review, searches of the CNDDB, consultations with experts and field surveys, a target species list of special-status wildlife species was compiled. The species, their habitat requirements, federal and state listing status, and the potential for occurrence in the project area are summarized in Appendix 5A of the FEIR.

PG&E conducted habitat assessments in 2001 and 2002 to evaluate the potential impacts to special-status wildlife species within the overhead portion of the project area. Because they are known to occur in the area, special consideration was given to the threatened California red-legged frog (*Rana aurora draytonii*), the endangered San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), and the threatened bald eagle (*Haliaeetus leucocephalus*). In addition, special-status invertebrate surveys were conducted. A detailed description of the habitat survey methods employed is provided in Section D.4 of the FEIR. Additional surveys were conducted in 2004 for potential habitat for the Mission blue butterfly (*Icaricia icarioides missionensis*); a single patch of perennial lupines was found along the lakeshore north of Tower 13/84, in an area not affected by the Proposed Project.

The following text contains brief descriptions of federally-listed species known to occur within the project area. No other federally-listed species were identified within the 3.3-mile overhead portion of the Jefferson-Martin project. Any newly-defined project areas (e.g., cable pull sites, access roads) that were not included in the special-status wildlife surveys will be surveyed prior to construction.

California Red-Legged Frog (Federal Threatened Species, Federal Register 61:25813; May 23, 1996). The California red-legged frog is the largest native frog in the western United States, ranging from 1.5 to 5 inches in length. The diet of California red-

legged frogs is highly variable. Feeding activity likely occurs along the shoreline and on the surface of the water. Juvenile frogs are active both during the day and at night, whereas adult frogs are largely nocturnal.

California red-legged frogs breed from November through March with earlier breeding records occurring in southern localities. Frogs living in coastal drainages are rarely inactive, whereas those found in interior sites may hibernate. The California red-legged frog occupies a fairly distinct habitat, combining both specific aquatic and riparian components. The adults require dense, shrubby or emergent riparian vegetation closely associated with deep (greater than 2 1/3-foot deep) still or slow moving water. California red-legged frogs aestivate (enter a dormant state during summer or dry weather) in small mammal burrows and moist leaf litter. Frogs hide in heavy vegetation and under banks, in holes, in cracks and under objects. Frogs foraging, resting, or dispersing in upland areas may not be detected by surveys (FWS, 2005b).

During dry periods, the California red-legged frog is rarely encountered far from water. During periods of wet weather, starting with the first rains of fall, some individuals may make overland excursions through upland habitats. Frog movements, via upland habitats, of about 1.6 kilometers (1 mile) are possible over the course of a wet season. Frogs may disperse without apparent regard to topography, vegetation type, or riparian vegetation (FWS, 2005b).

Within the Project Area, California red-legged frogs were identified in two retention ponds and an artificial pond near the shore of San Andreas Lake south of Tower 13/83. These habitats are all located adjacent to the alignment and will not be affected by the Proposed Project. The frog, however, may use upland habitat within the corridor of the Proposed Project and may be directly or indirectly impacted. The FWS has proposed critical habitat for the California red-legged frog within the Project Area (FWS, 2004).

San Francisco Garter Snake (Federal Endangered Species, Federal Register 32:4001; March 1967). The San Francisco garter snake is a slender, colorful snake in the Colubridae family, which includes most of the species of snakes found in the western United States. This subspecies has a burnt orange head, greenish-yellow dorsal stripe edged in black bordered by a red stripe which may be continuous or broken with black blotches, and then a black stripe. The belly color varies from greenish-blue to blue. Large adults can reach 3 feet or more in length.

Females give live birth from June through September, with litters averaging 16 newborn. The snakes are extremely shy, difficult to locate and capture, and quick to flee to water or cover when disturbed.

The snakes' preferred habitat is a densely vegetated pond near an open hillside where they can sun themselves, feed, and find cover in rodent burrows; however, considerably less ideal habitats can be successfully occupied. Temporary ponds and other seasonal freshwater bodies are also used. The snakes avoid brackish marsh areas because their preferred prey (California red-legged frogs) cannot survive in saline water. Emergent

and bankside vegetation such as cattails (*Typha spp*.), bulrushes (*Scirpus spp.*), and spike rushes (*Juncus spp.* and *Eleocharis spp*.) apparently are preferred and used for cover. The area between stream and pond habitats and grasslands or bank sides is used for basking; while nearby dense vegetation or water often provide escape cover.

Adult snakes sometimes aestivate (enter a dormant state) in rodent burrows during summer months when ponds dry. On the coast, snakes hibernate during the winter, but further inland, if the weather is suitable, snakes may be active year-round. Recent studies have documented San Francisco garter snake movement over several hundred yards away from wetlands to hibernate in upland small mammal burrows. Although primarily active during the day, captive snakes housed in an outside enclosure were observed foraging after dark on warm evenings.

San Francisco garter snakes forage extensively in aquatic habitats. Adult snakes feed primarily on California red-legged frogs. Extirpation of California red-legged frogs in San Francisco garter snake habitat is likely to cause localized extinction of the snake (FWS, 2005a).

San Francisco garter snake breeding populations were identified at several locations within the Project Area, and may be adversely affected by the Proposed Project. Although construction of the project would not directly affect the wetland habitats that are known to support this species, the San Francisco garter snake could be affected during construction or its habitat could be indirectly affected.

Bald Eagle (Federal Threatened Species in the conterminous United States, 32 Federal Register [FR] 4001; March 11, 1967). The bald eagle is the second largest North American bird of prey with an average 7-foot wingspan. It has a distinctive white head and white tail offset against a dark brown body and wings in adult birds. Bald eagles are opportunistic foragers and diet varies across the range based on prey species available. They prefer fish, but will eat a great variety of mammals, amphibians, crustaceans, and birds, including many species of waterfowl.

The breeding range of the bald eagle is associated with aquatic habitats (coastal areas, rivers, lakes, and reservoirs) with forested shorelines or cliffs in North America. Throughout their range, they select large, super-canopy roost trees that are open and accessible, mostly conifers. They winter primarily in coastal estuaries and river systems of the lower 48 states and Alaska. Loss of nesting habitat due to development along the coast and near inland rivers and waterways also has resulted in decreasing numbers.

Upper and Lower Crystal Springs Reservoir and San Andreas Lake are considered the best locations on the San Francisco Peninsula for finding this species (Sequoia Audubon Society, 1996). Several existing towers, particularly 13/83 to 13/87, are within the area that could be used as eagle perches.

Species of Concern. Species of concern that could potentially occur within the project area include northern harrier (*Circus cyaneus*), sharp-shinned hawk (*Accipiter striatus*),

Cooper's hawk (*Accipiter cooperi*), merlin (*Falco columbarius*), California yellow warbler (*Dendroica petechia brewsteri*), San Francisco common yellowthroat (*Geothlypis trichas sinuosa*), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), western pond turtle (*Clemmys marmorata marmorata*) and long-eared myotis (*Myotis evotis*). Additional detail regarding these species can be found in Section D.4 of the FEIR).

3.7.2 Applicable Regulations, Plans, and Standards

PG&E has been in consultation with the U.S. Army Corps of Engineers for impacts to wetlands, the U.S. Fish and Wildlife Service for impacts to federally-listed species, and the California Department of Fish and Game for impacts to State-listed species. Section 4.2 of this document describes the status of consultation with these agencies. The following is a summary of biological resource laws applicable to this project.

Endangered Species Act of 1973, as amended (PL 93-205, 87 Stat. 884, 16 USC §1531 et seq.)
The Endangered Species Act protects threatened and endangered species, as listed by the U.S. Fish and Wildlife Service (FWS), from unauthorized take, including to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect. The Act directs federal agencies to ensure that their actions do not jeopardize the continued existence of listed species. Section 7 of the Act defines federal agency responsibilities for consultation with the FWS and requires an assessment of threatened or endangered species that are likely to be affected by the proposed action. A section 7 consultation would result in a biological opinion from the FWS that addresses the anticipated effects of the project to the listed species and may authorize a limited level of incidental take.

Migratory Bird Treaty Act (MBTA) (U.S.C 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended).
The MBTA implements international treaties between the United States and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. Enforcement of the MBTA is carried out by FWS law enforcement officials.

Section 404 of the Clean Water Act (33U.S.C. 1344)
Pursuant to Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) regulates discharge of dredge or fill material into waters of the United States. Waters of the U.S. and their lateral limits are defined in 33 CFR Part 328.3 (a) and include navigable waters of the United States, interstate waters, all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Fill is defined as any material that replaces any portion of a water of the United States with dry land or changes the bottom elevation of any portion of a water of the United States. Any activity

resulting in the placement of dredge or fill material to waters of the United States requires a permit from the USACE.

Executive Order No. 13112: Invasive Species
This Executive Order prevents the introduction of invasive species and directs federal agencies to not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species. Actions proposed in the EA include measures to prevent the introduction and spread of invasive species.

Executive Order 11990: Protection of Wetlands
This Executive Order established the protection of wetlands and riparian systems as the official policy of the federal government. It requires all federal agencies to consider wetland protection as an important part of their policies and take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands. The Proposed Project will require bank stabilization measures along the shoreline of San Andreas Lake, and therefore will require a USACE permit. However, the stabilization areas along the shoreline are devoid of vegetation and no wetlands are present. No wetlands in the vicinity of the Proposed Project through NPS Easement lands will be impacted.

California Endangered Species Act
Section 2050 through 2098 of the California Fish and Game Code outline the protection provided to California's rare, endangered, and threatened species. Section 2080 of the California Fish and Game Code prohibits the taking of plants and animals listed under the authority of the California Endangered Species Act of 1984. Individual animal species declared to be threatened or endangered by the California Fish and Game Commission are listed in Title 14 of the California Code of Regulations (CCR) under Section 670.5. In addition, the Native Plant Protection Act of 1977 (Fish and Game Code Section 1900 et seq.) gives the CDFG authority to designate State endangered, threatened, and rare plants and provides specific protection measures for identified populations. The FEIR provides an analysis of State listed species in the Project Area and provides measures to mitigate potential impacts to them.

San Mateo County Tree Ordinances
Section 12000 of the San Mateo County Zoning Ordinance regulates the removal of significant trees, defined as trees with a circumference of 38 inches or more as measured at 4-1/2 feet above the ground or immediately below the lowest branch, whichever is lower. The ordinance requires a permit, issued by the Planning Director, for the removal of any significant trees. Where substantial alteration of vegetation within a scenic corridor will occur, approval by the Planning Commission is required. The Zoning Ordinance defines a scenic corridor as "those portions of land shown on the Map of Scenic Corridors abutting either side of select rural travel routes" (Section 4.44(b)). This provision of the San Mateo Zoning Ordinance applies to tree removal in the San Francisco Peninsula Watershed. Both I-280 and Skyline Boulevard (transportation corridors adjacent to the Project Area) are included in the list of designated scenic routes under the Ordinance.

In addition to the ordinance referenced above, San Mateo County has an ordinance regulating the removal of heritage trees, set forth in Section 11000 of the Zoning Ordinance. A heritage tree is defined as any tree or grove of trees so designated by the Board of Supervisors. In addition, any healthy tree of the species listed in Table D.2-7 of the FEIR is also deemed a heritage tree. A permit is required from the San Mateo County Planning Department in order to lawfully cut down, destroy, move, or trim any heritage tree. There are heritage trees in the Project Area. PG&E will determine the number of heritage trees that will need to be removed or trimmed, if any, and will obtain a permit from San Mateo County prior to the start of construction.

3.7.3 Environmental Consequences

3.7.3.1 Alternative 1: Proposed Project and Agreement

Information contained within this document is based on the results of surveys and field investigations conducted during preparation of the Final Environmental Impact Report (FEIR) (CPUC, 2003), as well as pre-construction surveys required by the FEIR. GGNRA vegetation maps of the project area were also used in the description and quantification of plant communities. Surveys were conducted by PG&E and its consultants and are described below. Additional detail regarding impacts to biological resources within the Proposed Project area is provided in Section D.4 of the FEIR. The following text describes potential impacts of the Proposed Project followed by compensatory mitigation measures.

Temporary and Permanent Loss of Sensitive Vegetation Communities (Impact B-1 in FEIR)

The Proposed Project could result in permanent loss and disturbance to sensitive plant communities and associated wildlife habitat. Although no sensitive plant communities or listed plants are known to occur in the Project Area, additional surveys will be conducted in new or expanded project areas not previously studied. Temporary impacts could result from removal of existing towers/foundations, conductor tensioning and splicing sites, construction staging and laydown areas, and operational and temporary access roads. One new road will have to be established and several roads reestablished to provide access to tower sites (see Table 3 Section 2.3.4).

Permanent loss of habitat would occur where new structure foundations are installed. Tubular poles would permanently impact an area of 5 to 7 feet in diameter. Removal of old structures and replacement with new structures would require work in an approximately 100 feet in diameter centered on the existing structure foundations. Tubular poles would permanently impact an area of 5 to 7 feet in diameter. Total area disturbed at each structure site (including the cleared area between the footings) would range from 625 to 1,764 square feet, depending on the size of the structures.

The project ROW contains several invasive species such as yellow star-thistle and French broom, and construction could result in the introduction of more and new invasive

species. The seeds of invasive species could be transported to other areas by the tires of trucks used during construction. Additionally, the fungal pathogen that causes sudden oak death (*Pytophthora ramorum*) has been reported in Crystal Springs Reservoir, nearby the project area (University of California, Berkeley; R. Breuer in CPUC, 2003). It is possible that construction equipment and foot traffic could spread the pathogen, should it be present within the ROW. The following mitigation measures will be implemented to minimize impacts to vegetation.

CPUC Required Mitigation from the FEIR:

> ***Mitigation Measure to Implement Vegetation Management Plan***
> PG&E shall prepare and implement a comprehensive Vegetation Management Plan for the transmission line ROW (including staging areas and construction routes) for review and approval by the SFPUC and appropriate resource agencies. The NPS will review and comment on the Vegetation Management Plan. The Plan shall incorporate Best Management Practices developed by the SFPUC for employees, consultants, and contractors, and shall comply with the SFPUC Vegetation Management Plan for all areas of the ROW on the Peninsula Watershed for the life of the Proposed Project. BMPs for preventing the spread of invasive plant species include regular cleaning of boots, vehicle tires, and equipment prior to entering the Watershed.

If it is determined, based on the results of additional surveys, that sensitive plant communities will be impacted, the following mitigation measures will be implemented.

> ***Mitigation Measure to Provide Restoration/Compensation for Vegetation Losses:*** Where impacts to wetlands and riparian habitat cannot be avoided, PG&E shall either restore temporarily disturbed areas to pre-construction conditions following construction or provide compensation for vegetation losses as required by the FWS, CDFG, and USACE.
>
> PG&E will mitigate for impacts to natural vegetation communities. Mitigation of impacts will be described in the Erosion Control and Revegetation Plan. The plan shall define the amount and type of habitat that will be permanently and temporarily impacted by any project-related activity, and shall include a discussion of the type and replacement ratios developed and accepted by the resource agencies with authority over the resource being impacted. NPS will review the Erosion Control and Revegetation Plan.
>
> ***Mitigation Measure to Conduct Pre-construction Surveys and Provide Monitors:*** Pre-construction plant and animal surveys shall be conducted for all areas that have not previously been surveyed within 200 feet of project construction activities. For previously surveyed areas, preconstruction surveys will be conducted for animal species only. Biological monitors shall locate and stake identified sensitive resources in specified areas before construction activities begin and inspect areas prior to construction to ensure that barrier fencing, stakes,

and required setback buffers are maintained. Special-status species locations, as well as jurisdictional wetlands and riparian habitat shall be flagged prior to the start of construction. A CPUC-designated biologist will be notified so she/he may observe these activities.

Mitigation Measure to Complete Rare Plant Surveys: Prior to construction, comprehensive rare plant surveys shall be conducted in previously unsurveyed areas for all plants that have been identified within the study area and those plants with the potential to occur in the study area. Any special-status plant occurrences located within 50 feet of project facilities, and those located outside the 50-foot margin that might be affected by construction activities, shall be fenced or flagged prior to the start of any construction, and if feasible, towers or other project components shall not be placed in areas where these plant populations have been identified.

Mitigation Measure to Protect Sensitive Habitats during Construction: PG&E shall map and flag or fence sensitive resources that are at risk from project activities. The mapping and flagging shall be reviewed by a CPUC-approved biologist prior to use of these routes for construction to ensure adequate protection for sensitive plant communities.

Mitigation Measure to Implement Pest Control: PG&E shall protect against the potential introduction or spread of noxious weeds or pathogens, such as sudden oak death. PG&E will coordinate with the SFPUC and resource and public agencies regarding sudden oak pathogen management. PG&E shall prevent invasion of invasive, nonnative species into sensitive plant species habitats and vegetation types by:

- Implementation of measures during construction, such as cleaning vehicles prior to off-road use, using weed-free imported soil, restricted vegetation removal, and requiring topsoil storage.
- Development and implementation of weed management procedures to monitor and control the spread of weed populations along the ROW.

Mitigation Measure to Negotiate Compensation for Loss of Significant Plant Communities: If the CPUC-approved project biologists, in consultation with project engineers, determines that avoidance or restoration of temporary impacts is not feasible, or where permanent impacts to significant plant communities occur from access road or tower installation, compensation for the loss of these communities shall be provided by PG&E. Compensation shall be provided to levels acceptable by the CPUC, FWS, CDFG, and USACE.

Mitigation Measure to Implement Worker Education: A Worker Environmental Awareness Program (WEAP) shall be implemented for construction crews by a qualified biologist provided by PG&E and approved by the CPUC prior to the commencement of construction activities. Training materials and briefings shall include, but not be limited to, discussion of the Federal and State Endangered

Species Acts, the consequences of noncompliance with these acts, identification and values of sensitive plant and wildlife species and significant natural plant community habitats, fire protection measures, hazardous substance spill prevention and containment measures, and review of mitigation requirements. PG&E shall provide to the CPUC a list of construction personnel who have completed training, and this list shall be updated by PG&E as required when new personnel start work. No construction worker may work in the field for more than 5 days without receiving the WEAP.

Loss of or Damage to Trees (Impact B-2 in FEIR)

Most of the Proposed Project would be located in an existing PG&E ROW. Expansion of this maintenance ROW and creation of some cable-pulling sites would likely require removal of some trees in the San Francisco Peninsula Watershed. PG&E has worked with the SFPUC and CPUC to identify tree removal strategies and vegetation management plans. A limited number of trees (to be determined based on final project design) would be permanently removed or trimmed to install the new tower footings and to clear the ROW. During construction, temporary impacts to trees will occur within the ROW as well as areas such as cable pull sites, access roads, and staging areas due to clearing or grading. The lands described under Alternative 1 would be subject to San Mateo County's ordinances regulating the removal of heritage and significant trees.

Mitigation Measure to Compensate for Tree Loss: To the extent that any tree removal falls under the County's ordinance, PG&E would obtain any required permits, which may be subject to Planning Commission approval. Standards for maintenance, management, and preservation of native and indigenous trees are established in the San Mateo County Heritage Tree Ordinance and the San Mateo County Significant Tree Ordinance. Tree removal permits or approvals for lost heritage or significant trees shall be obtained and mitigation shall be coordinated, as required.

PG&E shall avoid, minimize, and compensate for impacts to trees, including those protected by local ordinances, by:

- Pre-construction identification, fencing, and avoidance of trees to the maximum extent during construction.
- Consultation with local jurisdiction if unavoidable impacts to trees protected under County policies are likely to occur.
- Develop and implementation of a Tree Replacement Plan for loss or significant damage to protected trees.
- Supervision and verification of the implementation of these measures by the Environmental Monitor.

Successful implementation of tree replacement shall be evaluated five years after installation of all trees (including any trees installed to replace dead trees during the five-year maintenance and monitoring period). At that time, a report shall be submitted to the local jurisdiction, and CDFG, if requested, summarizing the results. A determination will be made by these agencies as to whether continued

monitoring is required and/or whether implementation of additional tree support measures (e.g., replanting, fertilization, irrigation) is required.

Erosion and Sedimentation (Impact B-3 in FEIR)

Erosion and sedimentation have the potential to occur during and after construction and are routinely related to exposure of surface soils from removal of vegetation and compaction of soils and disturbance of soil profile from vehicle movement. Erosion and sedimentation can temporarily or permanently damage vegetation communities by removing or substantially disrupting surface soil layers. Drainages, wetlands, and riparian areas could be substantially degraded by the accumulation of sediments and alteration of natural hydrologic characteristics.

Grading, excavation, and similar activities during construction, and permanent re-contouring of slopes for access roads and pole sites, could increase the potential for erosion of disturbed surfaces prior to reclamation. Short-term water erosion of soils on slopes greater than approximately 15 percent would occur during heavy storms, which could affect downslope vegetation. Erosion and sedimentation could adversely affect drainages and wetlands within and adjacent to the project area and might delay or prevent suitable recovery of disturbed surfaces. Impacts from movement of equipment and project personnel can vary in magnitude from minor to severe, depending on variables such as vegetation type, soil morphology, topography, and construction equipment and other vehicles. Efforts to restore areas that have not been severely affected by these impacts may cause more damage than the original impact.

Mitigation Measure to Reduce Erosion and Sedimentation Impacts: To protect biological resources from erosion and sedimentation, an Erosion Control and Revegetation Plan was developed for the CPUC-approved project in November, 2004. The short-term objective of the erosion control and revegetation effort is to minimize erosion and sedimentation in the areas disturbed by construction. The long-term objective is to restore habitat to achieve an established plant community that is natural in appearance and biologically compatible with the surrounding area. The plan requires that best management practices be implemented throughout the construction and restoration phases of the project. In areas where habitat has been disturbed prior to the project (disked areas and dirt roads), a readily available native grass seed mix shall be used.

The mitigation objective for affected significant natural plant communities shall be restoration to pre-construction conditions as measured by species cover, species composition, and species diversity. Success criteria shall be established by comparison with reference sites approved by the appropriate agencies. Contingencies in case of mitigation failure, such as off-site habitat creation or enhancement, shall be presented in the plan. Creation or restoration of habitat shall be monitored for five years after mitigation site construction to assess progress and identify problems. Remedial actions (e.g., additional planting or erosion control) shall be taken during the five-year period if necessary to ensure the success of the restoration effort. If the mitigation fails to meet the established

performance criteria after the five-year maintenance and monitoring period, monitoring shall extend beyond the five-year period until the criteria are met or unless otherwise noted by the jurisdictional agencies.

Wildlife Habitat Removal (Impact B-4 in FEIR)
Wildlife habitat removal includes activities such as: (1) ground surface grading and blading, (2) tree or shrub removal, (3) tree-trimming, and (4) scraping of road surface that disturbs surface and subsurface soils. Each of these activities could effectively remove existing habitat in the project area, thereby reducing its availability to local wildlife populations. Habitat removal could occur primarily during project construction, but tree-trimming will have a long-term impact. Wildlife habitat would be temporarily removed during construction of access roads, cable pulling areas, staging areas, and towers, and permanently removed by placement of the tower footings, thereby reducing the amount of habitat available to local wildlife populations. The ROW increase from approximately 50 feet to 100 feet will result in the removal of increased amounts of vegetation. Vegetation maintenance and management within the ROW will continue throughout the life of the project.

Loss of individuals as a result of habitat removal would likely have a negligible impact on populations of species throughout the region. Therefore, no mitigation is proposed for loss of wildlife habitat for non-sensitive species. However, acceptance of the Settlement Agreement would provide funds for the acquisition and conservation of habitat that would likely benefit regional wildlife populations.

Direct Wildlife Mortality (Impact B-5 in FEIR)
Direct loss of small mammals, reptiles, and other less mobile species could result primarily from the use of construction vehicles during stringing of the line, and use of other construction or maintenance vehicles within the 100 foot ROW. Surface disturbance during construction and maintenance of the Proposed Project could result in a potential loss of less mobile individual animals and ground nests. Clearing, grading, excavating, or burying habitats could also lead to mortality of small mammals, reptiles, amphibians, and nesting birds with eggs or young. These impacts to common wildlife species would be adverse, but moderate with implementation of the mitigation measure described below.

Mitigation Measure to Reduce Direct Wildlife Mortality
The purpose of this measure is to provide specific directions and descriptions of actions that would reduce mortality among wildlife in the vicinity of the project during construction, thereby reducing impacts to wildlife to minor levels. To protect wildlife during construction and reduce direct mortality impacts during construction, PG&E shall impose the following conditions on all construction personnel:

- Pre-construction surveys for ground-nesting avian species shall be conducted prior to construction in non-urban areas. If nests of ground-nesting species are identified within or near work areas that could be impacted by construction activities, measures to avoid or minimize impacts shall be

developed during consultation with CDFG and FWS and implemented in the project area.

- An avoidance buffer will be implemented if the CDFG or FWS determine that one would be beneficial.
- Vehicles operating within the ROW and on non-public roads shall not exceed a 15 mph speed limit.
- Litter or other debris that may attract animals shall be removed daily from the project area.
- No pets shall be allowed in the construction area, including access roads and staging areas.
- Construction crews shall be educated regarding sensitive wildlife that could be encountered on highways and how to safely avoid them. Crew behavior will be monitored by a qualified biologist approved by the CPUC.

Wildlife Disturbance from Human Presence (Impact B-6 in FEIR)

Indirect impacts to wildlife could occur as a result of noise and increased human presence throughout the project area, with heaviest concentration occurring during access to and construction at tower locations, during stringing of the line, and at construction staging and pulling areas. These activities are likely to temporarily displace a variety of wildlife from adjacent habitats, lowering the overall habitat availability and effectiveness of these areas. This effect could potentially be detrimental to some wildlife during their critical life stages and could increase competitive pressures among adjacent populations and habitats. With the mitigation measures listed below, which are included as requirements of the CPUC-approved project, impacts will likely be minor to moderate.

> ***Mitigation Measure for Wildlife Disturbance from Human Presence:*** The primary mitigation measures to reduce potential impacts to wildlife resulting from increased human presence during construction are avoidance by pre-construction surveys to determine wildlife presence or absence, and appropriate construction timing. PG&E will also demarcate any known sensitive resources, and work within an approved zone.

Bird Electrocution and Tower/Line Collisions (Impact B-7 in FEIR)

Many birds, including raptors, occur within the San Francisco Peninsula Watershed. Raptors and other large aerial perching birds are most susceptible to electrocution because of their size, distribution, and behavior (Olendorf *et al.* in CPUC, 2003). Bird electrocutions occur when the wingspan of the bird is greater than the spacing between any two conductors on a power pole or when a bird bridges the gap between a conductor and a ground wire. The high-voltage 230kV transmission lines, however, will have clearances between conductors or between conductors and ground that are sufficient to protect even the largest birds (APLIC, 1996). The clearances of the 60 kV line will be as large as the 230 kV side. Therefore, Alternative 1 will present little to no risk of electrocution.

Bird collisions with power lines generally occur when: (1) a power line or other aerial structure transects a daily flight path used by a concentration of birds, and (2) migrants

are traveling at reduced altitudes and encounter tall structures in their path (Brown, *et al*. in CPUC, 2003). Collision rates generally increase in low light conditions, during inclement weather, during strong winds, and during panic flushes when birds are startled by a disturbance or are fleeing from danger. The potential for bird collisions with the Proposed Project's power lines or poles occurs in all areas of the overhead transmission line, and is greatest in those locations that are near the open water and wetlands associated with San Andreas Lake. Both construction and operational impacts of the proposed transmission line include the potential for bird mortality from collisions with wires and tower structures. This is a moderate impact with the implementation of the following mitigation measures.

> ***Mitigation Measures to Minimize Bird Electrocution and Collision Impacts:*** PG&E will construct the new overhead portion of the electric transmission line and the overhead 144 fiber-optic ground wire to ensure that it is bird-safe. The configuration for each tower and the spacing of conductors will meet or exceed Avian Power Line Interaction Committee (APLIC) guidelines (APLIC, 1996) to minimize the risk of bird electrocutions and collisions with the project facilities.
>
> At least 60 days prior to installation of conductors, PG&E shall perform a study to determine the potential for bird strikes. The study shall evaluate the actual bird strike incidents at existing transmission lines in the vicinity of the approved project corridor. If this study determines that bird strikes would not constitute a significant impact, PG&E shall document study results and submit a report to the CPUC for review and approval. If PG&E opts not to complete this study or if study results confirm the potential benefits of bird flight diverters, the remainder of this measure shall be implemented. The protocol for this study (including the time period, survey intervals, and impact significance criteria) shall be approved by the CPUC, the U.S. Fish and Wildlife Service (USFWS), and the California Department of Fish and Game (CDFG). If PG&E does not perform the study defined above or if study results determine that flight diverters would likely be beneficial, PG&E shall install bird flight diverters on the 144 fiber optic ground wire in areas prescribed by the CPUC, the U.S. Fish and Wildlife Service (USFWS), and the California Department of Fish and Game (CDFG).

Habitat Removal or Disturbance of Listed Species (Impact B-8 in FEIR)
In general, construction and operational impacts to listed species would be similar to those discussed in the section for general wildlife. However, similar impacts can have greater effects on special-status wildlife species, since the distribution and abundance of many of these species are limited. There is a comprehensive list of special-status species that may occur along the entire 27-mile route of the Jefferson-Martin project in the FEIR, including State listed species. There are 3 federally listed species that are known to occur along the 3.3-mile segment of the Proposed Project addressed in this EA, including the San Francisco garter snake, California red-legged frog, and bald eagle.

The California red-legged frog may be adversely affected by the Proposed Project due to construction related impacts. Known breeding populations of the frog occur along the

north end of San Andreas Lake in the marsh. There is also suitable habitat for the California red-legged frog in ponds located directly adjacent to the access road that will be used during construction.

Land within the corridor of the Proposed Project in the San Francisco Peninsula Watershed was proposed for designation as critical habitat for the California red-legged frog (proposed in Federal Register 69:19619; April 13, 2004). This proposed designation of critical habitat for the California red-legged frog was published in accordance with the November 6, 2002, consent decree that ordered the FWS to publish a proposal by March 2004. In light of this deadline, the FWS based this proposal solely on the configuration of their previously published final designation of critical habitat for the California red-legged frog (66 FR 14626, March 13, 2001). Project activities could potentially result in an adverse modification to critical habitat for the California red-legged frog.

All construction stages of the project could adversely affect the red-legged frog and San Francisco garter snake by direct mortality, habitat disturbance, harm, and harassment. Both species use aquatic and adjacent upland habitats for dispersal and hibernation/aestivation. There are numerous ground burrows within and adjacent to the rights-of-way that could serve as habitat for these species. Vibration, noise, vehicles, earth disturbance, and trampling could all adversely impact these species.

Although not known to breed in the Project Area, the bald eagle could be adversely affected by removing trees that provide habitat. This species could also be affected by the increased risk of collisions with lines (discussed above).

> ***Mitigation Measures to Protect Listed Species:*** Specific actions will be implemented to reduce potential impacts to special-status wildlife species in the vicinity of the Proposed Project. These actions include: worker training through a mandatory Worker Environmental Awareness Training; speed limits of 10 miles-per-hour; clear delineation of designated work areas; and biological monitoring and site preparation.
>
> PG&E shall provide a Special Status Wildlife Protection Plan to the CPUC for review and approval 60 days before the start of construction. The plan shall define the specific areas in which each species is expected to occur, the results of completed surveys and a schedule for completing all pre-construction surveys and seasonal surveys conducted prior to construction, and specific protective measures that will be taken during construction. Copies of the Special Status Wildlife Protection Plan and survey results will be provided to the NPS for review. Effective application of all prior proposed mitigation measures to avoid or minimize impacts to vegetation and wildlife, combined with the following specific measures, would reduce impacts to listed species from a potentially significant to a moderate level.
>
> ***California Red-legged Frog***. In all areas that potentially support California red-legged frog habitat, pre-construction surveys will be conducted to determine if

this species is present. If the California red-legged frog is identified within or adjacent to the proposed construction activity, specific mitigation measures will be developed for each location in consultation with the FWS. Mitigation measures may include the construction of temporary exclusion fencing around the construction area combined with regular monitoring or habitat compensation. Conservation measures would be implemented in compliance with the FWS biological opinion that will be developed through section 7 consultation.

A qualified biological monitor will be present at construction areas near known or potential habitat, and BMPs shall be implemented during construction to minimize impacts associated with erosion in the proximity of habitat.

San Francisco Garter Snake. Mitigation to San Francisco garter snakes include:

- No construction activities shall occur within suitable San Francisco garter snake breeding sites or San Francisco garter snake wetland habitats.
- Flagging of designated work areas, having a biological monitor present during construction, and worker awareness training will be required.
- Implement conservation measures required by FWS section 7 consultation or CDFG 2081(b) consultation, which may include seasonal restrictions, fencing, avoidance of potential dispersal and overwinterng habitat, additional trapping, or habitat compensation.

Raptor Species. PG&E shall avoid disturbance to active raptor nests at all locations. Pre-construction surveys during the breeding season (February 1 through August 31) will be conducted to identify raptor nesting sites within 500 feet of the construction corridor. If nests are found, protective buffers will be established in consultation with the local CDFG representative and will be staked and flagged. No pre-construction surveys shall be required if construction activities are to occur only during the non-breeding season (September 1 through January 31). If surveys indicate that nests are inactive or potential habitat is unoccupied during the construction period, no further mitigation shall be required.

If active nests are found, a no-disturbance buffer shall be established around the active nest(s). The size of individual buffers can be adjusted, following a site evaluation by a qualified raptor biologist, which shall depend upon the presence of topographical features that obstruct the line of site from the construction activities to the nest or observations of the nesting pair during construction based on the level of ongoing disturbance (e.g., farming activities or road traffic) and the observed sensitivity of the birds. Site evaluations and buffer adjustments shall be made in consultation with the local CDFG representative. The portion of the project that is within the designated buffer shall be identified in the field by staking and flagging.

Consultation with Resource Agencies: To obtain incidental take authorization for federally-listed species, PG&E shall initiate section 7 consultation with the FWS in accordance with the Endangered Species Act of 1973, as amended.

PG&E will adhere to the terms and conditions of the biological opinion. If it is determined that incidental take authorization for species listed under the California Endangered Species Act is needed, then PG&E will obtain a Section 2081(b) permit, which allows a limited level of incidental take to otherwise lawful activities provided that the impacts of the authorized take are minimized and mitigated and the issuance of the permit will not jeopardize the continued existence of a State-listed species. PG&E will also work with other resource agencies to obtain necessary permits and concurrence prior to the implementation of Alternative 1 (see Section 4.2, Regulatory Compliance).

Potential Impacts to Waters of the U.S

The location and approximate extent of wetlands (and other aquatic habitats) was estimated during a July 2002 field reconnaissance. Based on the results of these surveys, the predominant wetland habitats that occur in the project vicinity were determined to be seasonal wetlands, with some emergent freshwater marsh habitat. These wetland habitats occur in two Caltrans retention basins, in the vicinity of Towers 12/79 and 12/80, as well as in a seasonal wetland south of Tower 13/84. None of these wetlands occur in areas that would be directly impacted by the Proposed Project.

A field delineation of Waters of the U.S. (including wetlands) within the Project Area was conducted in October 2004, per the methods described in the *U.S Army Corps of Engineers Wetlands Delineation Manual*. It was conservatively estimated that the Ordinary High Water Mark (the limit of USACE jurisdiction) of San Andreas Lake occurs at the edge of the shoreline, as defined by the toe of the bank. It should be noted that this portion of the lake shoreline is highly erosive (e.g., vertical banks, unstable soil), and is continuing to exhibit significant down-cutting by wave action and subsequent sloughing of the destabilized bank. Based on repeated observations of this area and communication with SFPUC field staff, it is estimated that this section of shoreline has eroded more than four feet over the past five months (USACE, 2004).

The edge of the shoreline is immediately adjacent to the foundation of the existing Tower 13/83 (which will be moved approximately 300 feet to the northeast). Removal of Tower 13/83 and its footings may result in temporary impacts associated with removal and bank stabilization. The shoreline is approximately 15 to 25 feet from the proposed location of Tower 13/84. This section of shoreline is highly erosive and, given the current rate of down-cutting, could reach the footprint of Tower 13/84 if the foundation is left unprotected. Therefore, concurrent with the installation of Structure 13/84 and subject to approval by SFPUC, this section of shoreline will be stabilized with medium-sized boulders interspersed with willow wattles.

The wetland delineation conducted in October 2004 will be verified by the Army Corps of Engineers prior to construction. Implementation of the Proposed Project is expected to impact 0.04 acres of Waters of the U.S. at San Andreas Lake. In this area, the shoreline is devoid of vegetation and no wetlands are present (USACE, 2004). No wetlands in the Project Area will be affected. PG&E is obtaining a permit from the Army Corps of Engineers for impacts to Waters of the U.S., and is also in the process of obtaining

compliance from the California Department of Fish and Game through a Lake and Streambed Alteration Agreement, as described in Section 4.2 of this document.

Mitigation Measure to Perform Wetlands Delineation and Avoidance: A jurisdictional delineation of wetlands within the proposed transmission line corridor shall be performed by PG&E and verified by the U.S. Army Corps of Engineers. A report shall be submitted to the CPUC at least 60 days before start of construction. Results of the delineation shall be utilized to define areas that are to be avoided in final tower siting and location of access roads and other project components. Consultation with the NPS will be initiated if wetland impacts are identified. Any impacts will be addressed by obtaining a USACE 404 permit and CDFG 1601 permit, and implementing the requirements of these permits and the Storm Water Pollution Prevention Plan.

Indirect impacts may occur during construction, but will be minimized through the use of BMPs, including erosion and sediment control practices. Wetlands will be demarcated for avoidance. Measures to minimize indirect impacts will be described in detail in the Erosion Control and Sediment Transport Plan, Erosion Control and Revegetation Plan, and Storm Water Pollution Prevention Plan, as required by the CPUC. Copies of these plans will be submitted to the NPS for review.

Settlement Agreement Mitigation

Mitigation Measure to provide Funds for Conservation and Recreational Resources: The Settlement Agreement includes the provision of funds for either acquisition of the Sweeney Ridge Gateway parcel or another suitable parcel. Funds are also provided for the improvement of recreational, scenic, natural, and/or open space values. These compensation measures will have long-term benefits to biological resources because they will help offset long-term impacts to recreational resources in the San Francisco Peninsula Watershed by ensuring that the land is not developed and that scenic, natural/open space, and biological values are enhanced and maintained.

3.7.3.2 Alternative 1 Cumulative Impacts

Impacts to sensitive vegetation, wildlife, and wetlands may result from residential, commercial, transportation, and recreation improvement projects in the region. Impacts of the projects may include vegetation removal, altered hydrology, erosion/sedimentation, and spread of invasive plant species. These impacts can affect habitat for special-status species. Noise, dust, human disturbance, and other related disturbances can temporarily displace wildlife. Mitigation of each project's individual effects through avoidance, minimization, and on- and off-site compensatory habitat should reduce most cumulative effects of the Proposed Project to less than significant levels.

Housing and highway expansion projects are proposed or planned within the vicinity of the project. Other projects are located in adjacent urban areas and in the San Francisco Peninsula Watershed. Although the Proposed Project would contribute to the cumulative loss of biological resources in the vicinity, implementation of mitigation measures designed to minimize project effects and restore affected areas to pre-existing conditions would result in less than significant cumulative impacts to vegetation and wetlands.

Alternative 1 would primarily result in temporary impacts to wildlife habitat. The temporary removal of wildlife habitat within the project corridor and at other projects that permanently and temporarily remove wildlife habitat in the vicinity creates a cumulative effect on wildlife habitat. However, the temporary loss of wildlife habitat would not result in a major cumulative impact to wildlife with the implementation of mitigation measures designed to minimize effects to wildlife species, to restore affected habitats to pre-existing conditions, and to compensate for the small amount of habitat permanently affected. When considered with the impacts from other actions, the effects are not collectively significant.

3.7.3.3 Alternative 1 Conclusion

With implementation of the mitigation measures, Alternative 1 would have local, short-term, negligible to minor, adverse effects on wetlands. Any impacts to wetlands would occur during the construction period and be indirect, since all project activities will avoid the footprint of all delineated wetlands. Impacts would affect a limited number of individuals of plant or wildlife species within the wetland and would cause a negligible change to the function of the wetland.

With mitigation, impacts to vegetation would be local, short and long-term (occurring during construction and through operation of the transmission lines), minor, and adverse. This Alternative would affect some individual native plants, but would affect a relatively minor portion of each species' population. No listed plants would be affected. If a plant disease such as sudden oak death was introduced to healthy trees through maintenance activities within the ROW, then effects could potentially be major; measures described in the Vegetation Management Plan will be implemented to minimize this risk.

With mitigation, effects to wildlife would be local, short and long-term, minor, and adverse. Most impacts would occur during the construction period, but impacts related to bird collisions, electrocutions, and loss or alteration of habitat due to vegetation removal in the ROW would span the life of the project. Effects to wildlife may be detectable, but would be within the natural range of variability and would be of little consequence to long-term population viability.

Provided that mitigation measures are implemented, effects to federally threatened and endangered species would be local, short-term, minor to moderate, and adverse. This alternative would likely affect listed species. The action could result in some change to a population or individuals of a species or designated critical habitat that would be measurable and of consequence. Proposed critical habitat of the California red-legged

frog may be adversely modified. Effects of this project may result in "take" of a listed species and will likely require additional conservation measures. Effects to listed species and associated conservation measures to avoid, minimize, or compensate for those effects will be developed in collaboration with the FWS during the section 7 consultation process.

Because there would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park's establishing legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or value related to biological resources.

3.7.3.4 Alternative 2: No Action Alternative

Under the No Action Alternative, PG&E will continue normal operation and maintenance activities, including maintenance of vegetation in the transmission line ROW. There are several ongoing impacts to vegetation and wildlife that would continue. Maintenance of the overhead portion of the 60 kV transmission line would likely require removal of mature and immature trees. Vegetation will to be removed when necessary to maintain access roads, towers, and transmission lines. Some of these trees may be subject to San Mateo County's ordinances regulating the removal of heritage trees and/or significant trees. To the extent that any tree removal falls under the County's ordinance, PG&E would obtain any required permits, which may be subject to Planning Commission approval, and would not conflict with these adopted County ordinances, promulgated in Sections 11000 and 12000 of the County Ordinance Code, respectively.
Management includes the removal of trees, bushes, or limbs that could provide habitat for birds and other wildlife species. Maintenance equipment and foot traffic could also spread the pathogen for sudden oak death.

Ongoing activities may adversely impact opportunities for the natural re-colonization of species that once may have occurred in the area as a result of competition with aggressive, non-native plants. Piles of vegetation are often left on the ground after PG&E trims trees and bushes. This could change the species composition and create conditions favorable to invasive species. The seeds of invasive species could also be transported by the tires of trucks used during inspection and maintenance operations.

The San Francisco Peninsula Watershed is an important and highly used area for birds. The following information generally applies to the existing 60 kV towers in the project area:

For Lattice Towers (typical tower)
Circuit to circuit separation = 17'-6"
Phase to phase separation = 10'-0"

For lattice poles (typical lattice poles)

Circuit to circuit separation = 16’-6”
Phase to phase separation = 9’-0”

Typically on the existing 60 kV line in the watershed, the line has two circuits; one circuit on the west side and the other on the east side of the tower. Each circuit has three phases (conductors); top, middle and bottom. The circuit to circuit separation is the distance between the west and east circuits at the appropriate phase level. The phase to phase separation is between the top and middle conductors, or the middle and bottom conductors.

The standard used in “Suggested Practices for Raptor Protection on Powerlines” by APLIC is 60” separation between phases, or between conductor and ground. This protects birds through eagle size (the largest bird expected in the project area). PG&E standard is 60” separation in raptor areas. Therefore, the existing facilities meet APLIC standards and the impacts associated with bird electrocution are minor.

Operational impacts of the transmission line include the potential for bird mortality from collisions with wires and tower structures. The potential for a bird collision with the current facilities is greatest in those locations that are near the open water and wetlands associated with San Andreas Lake. This is a long-term, moderate adverse impact.

3.7.3.5 Alternative 2 Cumulative Impacts

Cumulative impacts related to Alternative 2 involve bird collision and electrocution of birds in the San Francisco Peninsula Watershed and on adjacent lands in San Mateo County. There are numerous transmission lines and towers in the region of the Proposed Project. However, the configuration for each new tower and the spacing of conductors needs to meet or exceed APLIC guidelines to minimize the risk of bird electrocutions and collisions with the project facilities, thus minimizing injury and death. Since the existing lines meet APLIC standards, this cumulative impact is not significant.

Another cumulative impact may result from ongoing maintenance activities by PG&E and the SFPUC involving the trimming and removal of vegetation. This could result in the spread of non-native species as well as diseases that could affect trees. The removal of trees, bushes, or limbs that could provide habitat for birds and other wildlife species is a minor, but long-term impact, provided that it is done outside of nesting season.

3.7.3.6 Alternative 2 Conclusion

Impacts to vegetation and wildlife would be local, long-term, minor to moderate, and adverse. Impacts would be a result of continued existence and operation of the transmission facilities and would primarily be related to bird collisions with transmission facilities and removal of vegetation in the ROW.

Because there would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park’s

establishing legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or value related to biological resources.

3.8 Cultural Resources

3.8.1 Affected Environment

Ethnographic Pre-historic Background
At the time of initial contact between European explorers and the Native Californians, the area that is now San Francisco was inhabited by a people who were of Penutian linguistic stock and who spoke the Ramaytush language (Levy; Shipley in CPUC, 2003). These people, referred to as Costanoan, reaped the benefit of living in a bountiful, temperate environment. Modern descendants of the Costanoan prefer to be known as Ohlone and formed a corporate entity in 1971, the Ohlone Indian Tribe. Costanoan and Ohlone are used interchangeably in much of the ethnographic literature.

The arrival of the Spanish in the San Francisco Bay Area in 1775 led to the rapid demise of native California populations. Diseases, declining birth rates, and the effects of the mission system served to eradicate the aboriginal life ways (which are currently experiencing resurgence among Ohlone descendants). Evidence of the success of their hunter/gatherer subsistence strategy may be seen in the number of flourishing village sites known to have existed at the time of contact with the Spanish (Levy in CPUC, 2003). The detritus of these sites was found in numerous locations around the shoreline of San Francisco Bay in the form of shell mounds—large accumulations of shell, ash, human artifacts, and occasionally human remains. With the influx of European settlers in the mid-nineteenth century, most of these sites were destroyed or covered by buildings and roads (Alvarez in CPUC, 2003).

Historic Background
The San Mateo Peninsula continued to provide resources to San Francisco throughout the latter half of the nineteenth century. Redwoods from southern San Mateo were cut down to help build the city of San Francisco. Much of the San Andreas Valley was flooded to provide water storage for the city, thus enlarging San Andreas Lake.

Significant change to San Mateo County came with the 1906 earthquake and the United States entry into World War I. After the disaster, thousands of San Francisco residents relocated south to the Peninsula. Wartime industry provided jobs and a fledgling local economy. It was at this time that San Mateo County began to be a focal point of the electronics industry. The economy and population continued to grow during the mid twentieth century. Post–World War II growth fueled the creation of the Interstate Highway system and dense suburbs typical of many parts of modern San Mateo County developed.

Additional detail about ethnographic, prehistoric, and historic background about the area can be found in Section D.5.1 of the FEIR.

3.8.2 Applicable Regulations, Plans, and Standards

National Historic Preservation Act of 1966, as amended, PL 89-665, 80 Stat. 915, 16 USC §470 et seq. and 36 CFR 18, 60, 61, 63, 68, 79, 800. The National Historic Preservation Act requires agencies to take into account the effects of their actions on properties listed in or eligible for listing in the National Register of Historic Places. The Advisory Council on Historic Preservation has developed implementing regulations (36 CFR 800), which allow agencies to develop agreements for consideration of these historic properties. In June 1992, the NPS, State Historic Preservation Officer, and the Advisory Council on Historic Preservation entered into a programmatic agreement regarding operation and maintenance activities within the GGNRA.

Archeological Resources Protection Act of 1979, PL 96-95, 93 Stat. 712, 16 USC §470aa et seq. and 43 CFR 7, subparts A and B, 36 CFR. This act secures the protection of archeological resources on public or Indian lands and fosters increased cooperation and exchange of information between private, government, and the professional community in order to facilitate the enforcement and education of present and future generations. It regulates excavation and collection on public and Indian lands. It requires notification of Indian tribes who may consider a site of religious or cultural importance prior to issuing a permit. Record and field searches were conducted and the Native American Heritage Commission was contacted regarding prehistoric, historic, and ethnographic land use and sites of Native American traditional or cultural value that might be known to exist within the project vicinity. There are no known sites that would be impacted by the Proposed Project or by the No Action Alternative.

Additional detail regarding compliance with cultural resource laws is located in Appendix 6 of the FEIR.

3.8.3 Environmental Consequences

3.8.3.1 Alternative 1: Proposed Project and Agreement

The data collection methodology, derived from the FEIR, for the CH2M HILL and William Self Associates, Inc. studies included the following:

- Record search conducted at the Northwest Information Center of the California Historic Resource Information System consisting of a review of relevant historic maps, and excavation and survey reports. Sites forms for recorded sites within a 0.5-mile radius of the project route were copied.

- The Native American Heritage Commission was contacted for information on sacred lands and for a contact list of local tribal representatives or most likely descendents. Correspondence is found in Appendix 6 of the FEIR.
- Field surveys were conducted in order to verify the location of any previously identified cultural resources and to cover previously unsurveyed lands within the Area of Potential Effect, defined as a 200 foot-wide inspection corridor (100 feet from centerline). CH2M HILL's intensive pedestrian field surveys were conducted by James C. Bard, Robin D. McClintock, and James J. Sharpe. William Self Associate's field surveys were conducted by Kyle Brown and Adam Marlow (CPUC, 2003).

Research and Survey Results

In the process of conducting the archival research and field surveys described above, CH2M HILL found "no evidence of surface or subsurface archaeological sites in the project areas proposed for above-ground and below-ground construction (substations, towers, etc.)." Fifteen cultural resources were identified in the vicinity of the entire 27-mile CPUC-approved project route. Resources were defined as being within or adjacent to the project area if the resource is within 200 feet of a project component.

Of the fifteen, only one cultural resource was found in the vicinity of the 3.3-mile project route evaluated in this EA. The cultural resource is a prehistoric archaeological site (CA-SMA-23) located outside of the area of potential effect in the vicinity of the Proposed Project. The project will not have an impact on that prehistoric archeological site or any other known cultural resource. The area from MP 12.9–14.1 is designated as an archaeological high probability area due to its proximity to a known sensitive resource and the potential for encountering undiscovered cultural resources.

GGNRA Review

The Cultural Resources Division at the Golden Gate National Recreation Area assessed potential impacts of this project to cultural resources within San Francisco Peninsula Watershed boundaries. A document written by Marianne Babal of the GGNRA titled "The Top of the Peninsula; A History of Sweeney Ridge and the San Francisco Watershed Lands, San Mateo County, California" (NPS, 1990) was reviewed. It was determined that a historic dairy was located within the vicinity or the Proposed Project, but was outside of the project area and would not be impacted. The Proposed Project was presented for scoping at the GGNRA Preservation Assessment (5X) meeting on December 8, 2004, which is the forum for carrying out NPS review and approval responsibilities under the GGNRA Programmatic Agreement for Historic Preservation. This bi-monthly meeting is intended to ensure compliance with federal laws regarding cultural resource protection. The forum allows cultural resource specialists to discuss and evaluate potential effects to cultural properties in the GGNRA, and make recommendations to project proponents to avoid or minimize impacts. Since there was an adequate archeological and historical analysis, and since no known resources will be impacted and an archeological monitor will be on site in areas of high-probability, GGNRA cultural resource specialists determined that the project was not subject to further 5X review or approval.

Impacts and Mitigation

No adverse impacts to cultural resources are expected during the operation phase of the Proposed Project. The likelihood for adverse impacts from construction activity hinges on the potential of encountering significant and unanticipated cultural deposits during project construction. Of the activities associated with construction of Alternative 1, ground-disturbing activities have the highest probability of impacting any known or previously unidentified cultural resources. Construction of the overhead line would involve grading and improvements to unpaved access roads. The replacement of transmission towers would entail soil excavation for new foundation footings. Construction of the underground portions of the transmission line such as the section between Trousdale Boulevard and Tower 11/70 would involve open trenching for underground power lines. Typical trenches would be approximately 2 feet wide and approximately 6 to 7 feet deep.

With the exception of these ground disturbing activities, the remaining construction associated with the installation of the overhead portion of the transmission line (including the relocation/replacement of existing transmission towers and modifications to existing substations) is considered to pose no risk to any known resources and a low risk to unanticipated resources in the area. Ground disturbance would generally be confined to specific areas that had been previously disturbed or areas considered to have a decreased likelihood for containing buried cultural materials.

Should any resources be discovered, their significance would have to be determined in relation to the criteria for eligibility in the National Register of Historic Places. Simply because a prehistoric site has been disturbed, or historic structures altered, does not necessarily reduce the significance insofar as eligibility is concerned. Buried features of many kinds can remain undetected until being discovered during construction; at that time these features must be evaluated and a determination made as to their significance. The preferred mitigation for cultural resources is always avoidance of the resource. Should significant resources be discovered during construction, data recovery would be required to gather sufficient information from the site to evaluate the significance of the find and the impact.

To reduce effects to cultural resources associated with Alternative 1, the following mitigation measures will be implemented:

- Avoid environmentally-sensitive areas or ESAs (as noted above, the one known resource in the area would not be affected by project construction) (C-1a in FEIR).
- Preparation and implementation of a Cultural Resources Treatment Plan describing identification and protection of ESAs; identification of archaeological high probability areas where monitoring by a qualified archaeologist will be required; preparation of procedures for evaluation and treatment of the unexpected discovery of resources; and preparation of procedures for curation (C-1b in FEIR).
- Construction Personnel Training (APM 7.2 in FEIR).

- Archaeological monitoring in designated areas (APM 7.3 & C-1c in FEIR).
- Pre-construction surveys (APM 7.4 in FEIR).

3.8.3.2 Alternative 1 Cumulative Impacts

Proposed construction of the Jefferson-Martin transmission line could potentially contribute to the loss of cultural resources, especially when viewed in context of the many other development projects occurring in San Mateo County. However, with proper environmental planning and appropriate mitigation, the project is expected to successfully preserve significant cultural resources, and can provide opportunities for increasing our understanding of past environmental conditions and cultural history. Other past, concurrent, or future projects would come under either CEQA or NEPA review (or both), which requires assessment and mitigation of potential impacts to cultural resources. Therefore, the potential for cumulative loss of significant resources would be expected to be low. Specific archival research and field investigations along the proposed 27-mile Jefferson Martin transmission line route have provided data as to where significant cultural resource sites are and would likely be located, and these areas will be avoided by construction when feasible. The 3.3-mile segment of the Jefferson-Martin project being evaluated in this EA will not impact any known cultural resources. Any contributions from this project to cultural resource impacts would be from newly discovered sites. In the event that the Proposed Project or any other nearby project cannot avoid a resource, implementation of appropriate mitigation would reduce the impact to less than significant levels, and data gathered during the mitigation process would be used to augment the understanding of area history and prehistory. When considered with the impacts from other actions, the cumulative effects on cultural resources are not collectively significant.

3.8.3.3 Alternative 1 Conclusion

Any effects to cultural resources would be local and occur during the period of construction. Impacts would mainly result from ground disturbing activities. The effects, if cultural resources were impacted during construction, would be permanent. If no cultural resources are identified during construction, it is likely that no impacts would occur. The operation phase of the project would not result in impacts to cultural resources.

The Proposed Project area is not likely to be listed as a cultural landscape in the National Register of Historic Places, since the site has not yielded information important in prehistory or history. Furthermore, alteration of the current transmission lines and poles would only negligibly diminish the overall integrity of the landscape. If additional cultural resources are identified, mitigation measures identified in the Cultural Resources Treatment Plan will be implemented, as required by the CPUC-approved project, to ensure that any adverse impacts would be negligible to minor.

Because there would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park's

establishing legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or value related to cultural resources.

3.3.3.4 Alternative 2: No Action Alternative

No impacts to cultural resources would be expected under the No Action Alternative. Ongoing activities include routine inspection and maintenance of the transmission lines and poles. No ground disturbing activities would occur.

3.3.3.5 Alternative 2 Cumulative Impacts

Alternative 2 would not contribute to cumulative impacts to cultural resources in or adjacent to the San Francisco Peninsula Watershed.

3.3.3.6 Alternative 2 Conclusion

There would be no impacts to cultural resources from continued operation and maintenance of the 60 kV transmission line. No construction work is planned under the No Action Alternative, so no ground disturbance will occur. Because there would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park's establishing legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or value related to cultural resources.

3.9 Geology, Soils, and Paleontology

3.9.1 Affected Environment

The alignment of the Jefferson-Martin Project is located in the west-central portion of the Coast Ranges Geomorphic Province, which is characterized by a series of north-northwest trending ranges and valleys, few of which are continuous for more than 100 miles. The province extends from Santa Barbara County northward to the Oregon border (Norris and Webb in CPUC, 2003) and varies in width from a few miles to 70 miles. In the vicinity of the Jefferson-Martin Project the Coast Range is approximately 50 miles wide.

Topography
The overhead portion of the transmission line route traverses rolling ridge top followed by fairly homogeneous topography along San Andreas Lake in the San Francisco Peninsula Watershed.

Geology

Geologic conditions anticipated to be encountered during construction of the Proposed Project are summarized in Table 5. This table lists each geologic formation, a description of the formation's general rock type or lithology, the slope stability, excavation characteristics, and age of each formation along the Jefferson-Martin Project route.

Table 5: General Geotechnical Characteristics of the Geologic Formations

Formation Name	Lithology	Slope Stability	Excavation Characteristics	Age
Stream Channels	Sand, silt, clay, and gravel	Variable, depending on consolidation and texture	Easy to difficult	Quaternary
Merced Formation	Marine sandstone, siltstone, and claystone. Possible significant fossils.	Slumps on cut slopes, poss. Unstable excavations	Easy	Pliocene and Pleistocene
Franciscan Formation: Sandstone	Marine greywacke sandstone, and shale. No significant fossils.	Generally stable	Moderately easy to difficult	Jurassic and Cretaceous
Franciscan Formation: Greenstone	Basaltic flows, pillow lava, and breccia	Can hold vertical face	Difficult	Jurassic and Cretaceous
Franciscan Formation: Serpentine	Serpentinite	Can slump when heavily sheared	Moderately easy	Jurassic and Cretaceous
Franciscan Formation: Chert	Chert and shale	Can hold steep face, but has tendency to ravel	Difficult	Jurassic and Cretaceous
Franciscan Formation: Melange	Sheared chaotic mixture of primarily greywacke, siltstone, shale, and serpentinite	Variable depending on block-size distribution	Difficult due to high variability	Jurassic and Cretaceous

Source: Brabb, *et al.,* 1998 (from CPUC, 2003)

The geologic units exposed at the surface along the proposed alignment consist primarily of stream channel deposits of Holocene and Quaternary age; marine sandstone, siltstone, and claystone of Pliocene and Pleistocene age; and Cretaceous and Tertiary age sandstone, shale, chert, greenstone, and serpentinite units of the Franciscan Group, (Brabb in CPUC, 2003). Excavation characteristics are very generally defined as “easy,” “moderate,” or “difficult” based on increasing hardness of the rock unit. Both excavation characteristic and slope stability descriptions are general in nature and the actual ease of excavation may vary widely depending on site-specific subsurface conditions.
Mélange is present from Towers 10/69 to 12/80. The stretch from Tower 12/81 to 13/86 crosses either Franciscan sandstone or a Franciscan with a thin covering of Merced Formation (a softer, younger sandstone). The northernmost part of this stretch, from Tower 13/87 to the proposed Transition Station, crosses Franciscan sandstone.

Slope Stability

Most of the overhead segment of the Jefferson-Martin Project does not cross any area identified as an existing landslide. The overhead section of the Jefferson-Martin Project follows the Buri Buri Ridge across moderate topography with few steep areas. Although maps of landslide susceptibility in this area indicate that there are “few landslides” (Wentworth *et al.* in CPUC, 2003), some steeper slopes developed on sheared, fractured, or deeply weathered rock may pose a landslide risk. Areas of potential slope instability along this portion of the route would include the portion of the route that lies west of I-280 and north of MP 11.0.

Faults and Seismicity

The seismicity of the area of the Proposed Project is dominated by the northwest trending San Andreas Fault system. The Coast Ranges are characterized by numerous geologically young faults. These faults can be classified as historically active, active, potentially active, or inactive. The most recent probability calculations by the USGS's Earthquake Hazards Program for Northern California indicate a 62% probability of at least one magnitude 6.7 or greater earthquake on one of several active faults in the San Francisco Bay Area before 2032 (Working Group on California Earthquake Probabilities in CPUC, 2003). A major quake could occur on any of four major fault zones. The zone with the highest probability is the Hayward/Rogers Creek Fault Zone with a 27% chance of a quake of magnitude greater than or equal to 6.7; the San Andreas Fault Zone is ranked second with a 21% probability of a similar quake. The 62% is the combined probability for all four fault zones.

Since periodic earthquakes accompanied by surface displacement can be expected to continue in the study area through the lifetime of the Proposed Project, the effects of strong groundshaking and fault rupture are of primary concern to safe operation of the proposed transmission line and associated facilities. Other earthquake related effects are liquefaction, subsidence/differential settlement, and seismic slope instability/ground cracking.

The northern end of the alignment (from tower 12/80) lies within the Alquist-Priolo Zone for the San Andreas Fault. This part of the route will be subject to extreme groundshaking and possible ground rupture in the event of an earthquake on the San Andreas Fault. The peak ground acceleration could be higher than 70% force of gravity (g) due to the proximity of the fault (CDMG in CPUC, 2003). Groundshaking caused by earthquakes on other faults would be less severe in the area of the Proposed Project. A cumulative total of up to 20 feet of ground rupture could occur along one or more fault traces depending on the size of an earthquake on the San Andreas Fault and the location of the epicenter with respect to the Proposed Project. The expected displacement during an earthquake is right-lateral strike-slip, causing the western side of the fault to move toward the northwest with respect to the east side.

The overhead transmission line very nearly parallels the San Andreas Fault, crossing two major traces from the east side to the west side between towers 13/89 and 14/91. Because of the orientation of the oblique fault crossing from 13/89 to 14/91, the transmission lines will likely be stretched as the fault moves.

Soils

The soils along the proposed transmission line route reflect the underlying rock type, the extent of weathering of the rock, the degree of slope, and the degree of modification by humans. According to the Soil Survey of San Mateo County, the major soil unit is Fagan-Obispo, an upland soil present in the undeveloped areas alongside Interstate 280 (I-280) and beside the reservoirs. With respect to conditions for shallow excavation for buried utility trenches or for tower footings, Fagan soil limitations are described as moderately restrictive for shallow excavations due to the high clay content and steeper

slopes. Obispo soil limitations are described as severe due to shallow bedrock and steeper slopes. If excavated, the suitability of these soils for trench backfill would have to be determined in the field.

Mineral Resources
No major mineral resources occur along the Proposed Project route.

Paleontologic Resources
In Northern California, fossils of land-dwelling vertebrates are considered significant (CH2M HILL in CPUC, 2003). Only one geologic unit occurs along the proposed alignment that meets the criteria of moderate to high sensitivity of paleontological resources, the Merced formation. Such fossils are found in fluvial and lake deposits. Significant land-dwelling vertebrate fossils are not known from the Franciscan Complex.

3.9.2 Applicable Regulations, Plans, and Standards

Geologic resources and geotechnical hazards are governed primarily by local jurisdictions. The conservation elements and seismic safety elements of city and county general plans contain policies for the protection of geologic features and avoidance of hazards, but do not specifically address transmission line construction projects. Local grading ordinances establish detailed procedures for pipeline construction, including trench backfill, compaction, and testing.

In California, the Alquist-Priolo Earthquake Fault Zoning Act of 1972 (formerly the Special Studies Zoning Act) regulates development and construction of buildings intended for human occupancy to avoid the hazard of surface fault rupture. While this Act does not specifically regulate pipelines, it does help define areas where fault rupture is most likely to occur. This Act groups faults into categories of active, potentially active, and inactive. Historic and Holocene age faults are considered active, Late Quaternary and Quaternary age faults are considered potentially active, and pre-Quaternary age faults are considered inactive. These classifications are qualified by the conditions that a fault must be shown to be "sufficiently active" and "well defined" by detailed site-specific geologic explorations in order to determine whether building setbacks should be established.

The 2001 California Building Code is based on the 1997 Uniform Building Code, with the addition of more extensive structural seismic provisions. Chapter 16 of the California Building Code contains definitions of seismic sources and the procedure used to calculate seismic forces on structures. As the Proposed Project route lies within UBC Seismic Zone 4, provisions for design should follow the requirements of Chapter 16. CCR Title 24, Section 3301.2 and 3301.3 *et seq.* contain the provisions requiring protection of the adjacent property during excavations and require 10 days written notice of excavations and that access is given to the adjacent property owners.

The safety elements of General Plans for the County along the proposed alignment contain policies for the avoidance of geologic hazards and for the protection of unique

geologic features. County and local grading ordinances establish detailed procedures for excavation and grading.

3.9.3 Environmental Consequences

3.9.3.1 Alternative 1: Proposed Project and Agreement

The analysis regarding geology, soils, and paleontology concluded that installation of the overhead portion of the Proposed Project could have potential impacts to geology, soils, and paleontology during construction and operation. PG&E has committed to implementation of the CPUC-required mitigation measures listed below after each impact.

This segment of the proposed route lies parallel to the San Andreas Fault and within 1 mile of the main active fault trace. The northern end of the segment crosses over the surface trace of the 1906 rupture. In the event of an earthquake along the San Andreas Fault adjacent to the Jefferson-Martin Project, this entire segment would be subject to severe groundshaking and near-field effects such as amplified ground motions in particular areas. In addition, the transmission towers in the vicinity of the fault crossings would be subject to the hazard of surface fault rupture, potentially causing damage or failure of tower structures. While much of the route crosses areas of bedrock with very little soil cover, some areas of potential slope instability and landslides may be encountered on steep slopes.

Soft or Loose Soils Along Alignment May Affect Tower Foundations and Footings, Excavation Stability, and Access to Construction Areas (Impact G-1 in FEIR)
Loose or saturated sands and soft clays present along the proposed alignment may pose difficulties in excavating for pole or tower foundations, in trenching during construction of underground facilities, and in access to project sites during construction. The following mitigation measure will be implemented to minimize this impact.

> ***Mitigation Measure to Conduct Geotechnical Studies:*** PG&E shall perform design-level geotechnical studies to identify areas of soft or loose soils along the alignment where they may affect tower footing excavation stability and access roads. Where soft or loose soils are found, Best Management Practices (BMPs) shall be followed for avoidance, improvement, or replacement of affected soil areas. BMPs shall be identified and provided to the CPUC and SFPUC for review and approval at least 60 days before construction.

Excavation, Grading, or Fill Placement during Construction Activities Could Cause Slope Instability (Impact G-2 of FEIR)
Destabilization of natural or constructed slopes could occur as a result of construction activities due to excavation, grading, or fill operations. Excavation operations associated with pole foundation construction could result in unstable excavation slopes, caving, and displacement of the adjacent ground surface. This potential hazard would be mitigated to

less than significant levels through the implementation of the mitigation measure described below.

> ***Mitigation Measure to Protect Against Slope Instability:*** Appropriate support and protection measures shall be implemented to maintain the stability of excavations and protect surrounding structures and utilities to limit ground deformation. Design-level geotechnical investigations shall be performed to evaluate subsurface conditions, identify potential hazards, and provide information for development of excavation plans and procedures. Appropriate construction methods and procedures, in accordance with State and federal health and safety codes, shall be followed to protect the safety of workers and the public during trenching and excavation operations. PG&E shall document compliance with this measure prior to the start of construction by submitting a report to the CPUC for review and approval. The report shall document the investigations and detail the specific support and protection measures that will be implemented.

Paleontologic Resources May Be Destroyed by Construction Activities (Impact G-3 in FEIR)

Several fossil-bearing geologic formations are located in the area of Alternative 1. Fossils are particularly common in the Merced formation, and a little less common in the Colma and Whiskey Hill formations. Ground-disturbing activities during construction could impact paleontologic resources. The following CPUC-required measures will be implemented to avoid or reduce the level of impact to a minor level.

> ***Mitigation Measure to Consult a Paleontologist:*** Prior to construction, a qualified paleontologist shall be consulted regarding the likelihood of encountering significant fossils along specific segments of the approved alignment. The definition of a "qualified paleontologist" is provided by the Society of Vertebrate Paleontologists (Society of Vertebrate Paleontologists in CPUC, 2003). If the paleontologist determines fossils may be present, a paleontologic monitor shall be present at each excavation that penetrates undisturbed native soil or rock (not fill or Franciscan rock) that has been identified by the paleontologist as moderately to highly sensitive. If the find is deemed to have scientific value, the paleontologist and PG&E will devise a plan to either avoid impacts or to continue construction without disturbing the integrity of the find (e.g., by carefully excavating the material containing the resources).
>
> Sampling and collecting shall follow Society of Vertebrate Paleontologist 1999 guidelines. Typical samples for microfossils shall be collected and any significant megafossils that are found shall be prepared for curation by the paleontologist and donated to a public museum such as the Museum of Paleontology at the University of California at Berkeley. PG&E shall document compliance with this measure prior to the start of construction by submitting to the CPUC for review and approval a preliminary paleontological report by the paleontologist containing the following elements: (1) the locations where project construction is likely to encounter significant fossils; and (2) a plan outlining the proposed monitoring and

fossil recovery/salvage methods. Within ninety (90) days of completion of the excavation phase of the project, the paleontologist shall prepare a final paleontological report summarizing the monitoring and the findings; this report shall be provided to the CPUC for review and approval. The report shall include a list of fossils found (if any), the general locations of found fossils (precise locations should be kept confidential), the name of the curating institute where the fossils have been delivered, and a statement that the loss of non-renewable resources has been mitigated.

Strong Groundshaking from Local and Regional Seismic Sources (Impact G-5 in FEIR)

The Proposed Project route would not cross any active trace of the San Andreas Fault, though it lies very close. Severe groundshaking should be expected in the event of an earthquake on the fault in this area. The alignment is also subject to groundshaking from any of several major, active faults in the region. While the shaking would be less severe from an earthquake that originates farther from the alignment, the effects, particularly on the ridgelines, could be damaging to project structures.

It is likely that Jefferson-Martin Project facilities would be subjected to at least one moderate or larger earthquake occurring close enough to produce strong groundshaking in the area. Estimated horizontal peak ground acceleration experienced by project facilities would range upwards from approximately 0.6 g for a maximum capable earthquake on the San Andreas Fault. To reduce potential impacts to less than significant levels, the mitigation measure described below will be implemented, which requires incorporation of standard engineering practices as part of the project, to ensure that people or structures are not exposed to hazards associated with strong seismic groundshaking.

> ***Mitigation Measure to Reduce Effects of Groundshaking:*** PG&E will perform design-level geotechnical investigations including site-specific seismic analyses to evaluate the peak ground accelerations for design of project components. Compliance with this measure shall be documented to the CPUC at least 60 days before construction by submittal of reports describing the potential peak ground accelerations expected for design level earthquake and a description of how the design will accommodate this anticipated motion.

Seismically Induced Ground Failures Including Liquefaction, Lateral Spreading, Seismic Slope Instability, and Ground-Cracking (Impact G-6 in FEIR)

Seismically induced ground failure includes liquefaction, lateral spreading, seismic slope instability (landslide), and ground-cracking. Liquefaction occurs in low-lying areas where saturated noncohesive sediments are found. Lateral spreading occurs along waterfronts or canals where non-cohesive soils could move out along a free-face. Slope instability and ground-cracking can occur anywhere, but are generally concentrated on hilltops, ridgelines, or very close to an active trace of the fault.

Since much of this portion of the overhead segment is located along hillsides or ridgelines, the possibility of seismic-induced ground failure in the form of landsliding or ground-cracking is high. The mitigation measure described below would reduce potentially significant impacts for all potential instances of ground failure along the project to less than significant levels.

> ***Mitigation Measure for Geotechnical Investigations for Liquefaction and Slope Instability:*** Since seismically induced ground failure has the potential to damage or destroy project components, PG&E shall perform design-level geotechnical investigations to assess the potential for liquefaction, lateral spreading, seismic slope instability, and ground-cracking hazards to affect the approved project and all associated facilities. Where these hazards are found to exist, appropriate engineering design and construction measures shall be incorporated into the project designs. Appropriate measures could include construction of pile foundations, ground improvement of liquefiable zones, installation of flexible bus connections, and incorporation of slack in underground cables to allow ground deformations without damage to structures. PG&E shall submit a report of the required investigations to the CPUC for review and approval at least 60 days before construction.

Slope Instability Including Landslides, Earth Flows, and Debris Flows (Impact G-7 in FEIR)

Slope instability including landslides, earth flows, and debris flows has the potential to undermine foundations, cause distortion and distress to overlying structures, and displace or destroy project components. In the FEIR, the CPUC concluded that impacts associated with slope instability would be mitigated to less than significant levels with implementation of standard practices and the following mitigation measure.

> ***Mitigation Measure for Geotechnical Surveys for Landslides:*** The CPUC required that PG&E perform design-level geotechnical surveys to evaluate the potential for unstable slopes, landslides, earth flows, and debris flows along the approved transmission line route and in the vicinity of other project facilities. Based on these surveys, approved project facilities shall be located away from very steep hillsides, debris-flow source areas, the mouths of steep sidehill drainages, and the mouths of canyons that drain steep terrain. A report documenting these surveys shall be submitted to the CPUC for review and approval at least 60 days before construction.

Surface Fault Rupture at Crossings of Active and Potentially Active Fault Traces (Impact G-8 in FEIR)

Project facilities would be subject to hazards of surface fault rupture at crossings of active traces of the San Andreas Fault between Towers 14/90 and 14/92 along the proposed route. Hazards would not be as great where the proposed alignment crosses traces of potentially active faults. Fault crossings where multiple feet of displacement are expected along active faults are best crossed as overhead lines with towers placed well outside the fault zone to allow for the flex in the cables to absorb offset. Impacts

associated with overhead active fault crossings can be mitigated to less than significant levels because they are able to distribute fault displacements over a comparatively long span. The mitigation measure described below is recommended for overhead crossings to minimize the length of transmission lines within fault zones.

> ***Mitigation Measure to Minimize Project Structures within Active Fault Zone:*** For overhead transmission lines, site-specific geotechnical investigations will be performed at proposed tower locations to evaluate the potential for fault surface rupture. Where significant potential for fault surface rupture exists, tower locations will be adjusted as possible. Incorporation of standard engineering practices as part of the Project will ensure that people or structures are not exposed to fault rupture hazards.
>
> Overhead transmission-line spans will be designed to accommodate potential fault displacement between support structures. Any crossing of an active fault shall be made as close to perpendicular to the fault as possible to make the segment cross the shortest distance within an active fault zone. For crossings of active faults with overhead transmission lines, the towers shall be placed as far as feasible outside the area of mapped fault traces. Compliance with this measure shall be documented to the CPUC in a report submitted for review and approval at least 60 days prior to the start of construction.

Corrosive Soils (Impact G-11 in FEIR)

Corrosive subsurface soils may exist in places along the Proposed Project route. Corrosive soils could have a detrimental effect on concrete and metals. Depending on the degree of corrosivity of subsurface soils, concrete and reinforcing steel in concrete structures and bare-metal structures exposed to these soils could deteriorate, eventually leading to structural failures. The implementation of standard design and construction practices and implementation of the mitigation measure described below would ensure that potential impacts from corrosive soils are negligible to minor.

> ***Mitigation Measure to Implement Standard Engineering Methods for Corrosive Soils:*** PG&E will conduct design-level geotechnical studies to identify the presence, if any, of potentially detrimental soil chemicals, such as chlorides and sulfates. Appropriate design measures for protection of reinforcement, concrete, and metal-structural components against corrosion shall be utilized, such as use of corrosion-resistant materials and coatings, increased thickness of project components exposed to potentially corrosive conditions, and use of passive and/or active cathodic protection systems. Study results and proposed solutions shall be provided to the CPUC for review and approval at least 60 days before construction.

3.9.3.2 Alternative 1 Cumulative Impacts

Potential cumulative impacts consist of loss of unique geologic features or known mineral, energy, and paleontological resources, substantial alteration of the topography,

or triggering or acceleration of slope failures. Seismic impacts (groundshaking, coseismic ground failure, or fault rupture) comprise the impact of the geologic environment on the project and are not cumulative. Construction of the Proposed Project would contribute only a negligible increase to the potential cumulative geologic impacts. Without project specific information, it is not known what type of impacts other projects would have on geology, paleontology, or soils. However, other projects would be subject to CEQA or NEPA review and if it was determined that those projects would have a significant impact on resources, mitigation measures would likely be implemented to bring the impact below the level of significance. Furthermore, the footprint, type, and location of cumulative projects listed under Section 3.4 would not be of the intensity to result in major impacts to geological, paleontological, or soil resources. Therefore, when considered with the impacts from other actions, the effects are not collectively significant.

3.9.3.3 Alternative 1 Conclusion

With implementation of CPUC-mandated mitigation measures, Alternative 1 would have long-term beneficial impact related to geologic hazards from seismic activity. Extensive structural seismic provisions have been used in the design and siting of the transmission line. PG&E has performed design-level geotechnical investigations including site-specific seismic analyses to evaluate the peak ground accelerations for design of project components. Surveys will also be conducted to evaluate the potential for unstable slopes, landslides, earth flows, and debris flows along the approved transmission line route and in the vicinity of other project facilities. These measures will help minimize impacts associated with seismic activity. To avoid potential impacts related to unstable slopes, landslides, earth flows, and debris flows along the approved transmission line route and in the vicinity of other project facilities, approved project facilities will be located away from very steep hillsides, debris-flow source areas, the mouths of steep side-hill drainages, and the mouths of canyons that drain steep terrain. Alternative 1 should not result in a change to a natural physical resource.

Effects related to soils will be negligible to minor, short-term, local, and adverse. Impacts would only occur during the construction period. Many of the towers that will be replaced are on soils that have previously been disturbed. This project does not involve large amounts of digging, grading, and filling. New soil disturbance will be limited to the excavation footprint of the tubular steel poles. Mitigation measures will be implemented to minimize potential effects from corrosive soils to project facilities. This project will not result in a change to soil character.

Paleontological impacts will be long-term, local, negligible to moderate (depending on the quantity, context, and types of paleontological resources identified, if any) and adverse. With the implementation of mitigation measures, impacts should be avoided or minimized to a negligible level and will only occur during construction of Alternative 1. Many of the areas where ground disturbance will occur have been previously disturbed. New pole locations could occur in a fossil-rich geologic layer, but the volume of bedrock

disturbed would be minimal. Monitoring would be likely to detect fossils, thus preventing or minimizing the loss of fossils and associated contextual information.

Because there would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park's establishing legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or value related to geology, soils, and paleontology.

3.9.3.4 Alternative 2: No Action Alternative

Under the No Action Alternative, there would be no new impacts to geology, soils, or paleontology. The ongoing operation and maintenance of the 60 kV transmission line through the San Francisco Peninsula Watershed does not involve excavation, grading, or fill and will not affect the soil or paleontological resources.

Alternative 2 does not cross any active trace of the San Andreas Fault, though it lies very close. Severe groundshaking should be expected in the event of an earthquake on the fault in this area. The alignment is also subject to groundshaking from any of several major, active faults in the region. While the shaking would be less severe from an earthquake that originates farther from the alignment, the effects could be damaging to project structures. It is not known what types of geotechnical investigations and measures were conducted in the design and location of the transmission lines to minimize seismic impacts.

3.9.3.5 Alternative 2 Cumulative Impacts

Alternative 2 would not contribute to any cumulative impacts to geology, soils, or paleontology in or adjacent to the San Francisco Peninsula Watershed.

3.9.3.6 Alternative 2 Conclusion

There would be no impacts to soils or paleontology from continued operation and maintenance of the 60 kV transmission line. No construction or ground disturbing activities are planned under the No Action Alternative. The continued threat of seismic impacts will continue as long as the transmission facilities are in place. Therefore, the No Action Alternative would result in the status quo relating to on-going impacts to geologic resources.

Because there would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park's establishing legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or value related to geology, soils, and paleontology.

3.10 Hydrology and Water Quality

3.10.1 Affected Environment

General Setting
The Proposed Project would be located on the San Francisco Peninsula. Average annual rainfall is approximately 35 inches per year at San Andreas Lake (San Francisco Planning Department in CPUC, 2003). Precipitation is seasonal with dry summers and wet winters. Approximately 85 percent of the annual total precipitation falls during the five-month period from November to March.

Surface Waters
The primary hydrologic feature along the overhead segment is San Andreas Lake. Much of the Proposed Project alignment runs along the ridgeline between the Peninsula Watershed and adjoining watersheds that drain to the San Francisco Bay. Since the ridgeline is where natural watercourses begin, most of the streams are small at the location of the crossings.

Only one named creek, Flume Creek, is found near this area. Flume Creek is a permanent stream flowing south from the San Andreas Lake to the Lower Crystal Springs Reservoir. The overhead portion of the Proposed Project alignment does not cross this creek, but a portion of the transmission line would be within the Flume Creek watershed. The Proposed Project would cross a single small, local creek (Crossing No. 13 on Figure D.7-1b in FEIR).

Most of the overhead power line segment is within the San Francisco Peninsula Watershed in an area draining to San Andreas Lake, some of it is within several meters of the lake (see Figure 2). San Andreas Lake is located at the northern end of the Peninsula Watershed lands, above the San Andreas Dam. The dam was constructed in 1870. The catchment area of San Andreas Lake is 4.4 square miles, and the reservoir's capacity is 19,000 acre feet. In addition, flows from the upper San Mateo Creek drainage area (about 2.5 square miles) can be conveyed to San Andreas Lake through the Davis Tunnel. San Andreas Lake can also be used to store water from the Pilarcitos Reservoir and Crystal Springs Reservoir, including Hetch Hetchy water conveyed through the Bay Division Pipelines. Accumulated sedimentation has reduced the maximum storage capacity of San Andreas Lake by about 20 percent since 1870.

Water Quality
The water in San Andreas Lake is mostly derived from Hetch Hetchy Reservoir and generally meets water quality standards as described in the FEIR. Levels of turbidity, giardia, and cryptosporidium are typically low.

The Peninsula Watershed Management Plan identified Water Quality Vulnerability Zones (WQV zones) within the Peninsula Watershed. The WQV zones are areas where activities or disturbance would have the greatest potential to affect the water quality of surface runoff and water stored in the reservoirs. Vulnerability is classified as high, moderate, or low based on the proximity of the area to water, rainfall intensity, wildlife concentration, vegetation as a protective layer, slope, and soil. Disturbance to areas of the highest vulnerability would result in the greatest risk to water quality (San Francisco Planning Department, 2000). The majority of the Proposed Project route from Trousdale to Glenview Drive is within WQV zones classified as moderate to high vulnerability. In general, along the transmission line route, the high vulnerability zones are along and adjacent to stream channels. The ridges and watershed slopes are classified as moderate vulnerability.

Groundwater
Groundwater throughout the project area is generally found at depths greater than 20 feet below ground surface. However, occasional undefined and discontinuous shallow-perched water zones, including those adjacent to local recharge sources (surface-waterbodies) or springs, have been encountered at shallower depths within the project area.

The Westside Groundwater Basin underlies a portion of the Proposed Project from approximately San Bruno to Burlingame. The Westside Groundwater Basin is comprised of three unconsolidated, water-bearing units: the Merced Formation, the Colma Formation, and the locally occurring dune sands. The Merced and Colma Formations primarily comprise fine- to medium-grained sands that interfinger with intervals of discontinuous silt and silty sand. The total thickness of the three unconsolidated units is up to 500 feet thick in the Golden Gate Park, up to 700 feet thick near the San Francisco International Airport, and up to 3,700 feet thick in the area southeast of Thornton Beach. Near the airport, and in the vicinity of the project, groundwater flows easterly toward the San Francisco Bay.

Westside Basin groundwater recharge occurs as a result of infiltration and subsurface inflow. Infiltration sources include precipitation, seepage from surface waterbodies (creeks and lakes), irrigation return-flow, and leakage from underground pipes. Groundwater in the basin supplies numerous municipal wells for irrigation, industrial, and potable uses.

3.10.2 Applicable Regulations, Plans, and Standards

Federal
Clean Water Act. The Clean Water Act (CWA) (33 U.S.C. Section 1251 et seq., formerly the Federal Water Pollution Control Act of 1972) was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. Those discharges are regulated by the National Pollutant

Discharge Elimination System (NPDES) permit process (CWA Section 402). In California, NPDES permitting authority is delegated to, and administered by, the nine Regional Water Quality Control Boards (RWQCB).

Section 401 of the CWA requires that any activity, including river or stream crossings during road, pipeline, or transmission line construction, which may result in a discharge into a State waterbody must be certified by the RWQCB. This certification ensures that the proposed activity does not violate State or federal water quality standards. Section 404 of the CWA authorizes the U.S. Army Corps of Engineers (USACE) to regulate the discharge of dredged or fill material to waters of the U.S. and adjacent wetlands. The USACE issues individual site-specific or general (Nationwide) permits for such discharges.

State

Streambed Alteration Agreement. Section 1601 of the California Fish and Game Code requires an agreement between the Department of Fish and Game and a public agency proposing to substantially divert or obstruct the natural flow or effect changes to the bed, channel, or bank of any river, stream, or lake. The agreement is designed to protect the fish and wildlife values of a river, lake, or stream.

Porter Cologne Water Quality Control Act. The Porter Cologne Water Quality Control Act of 1967, Water Code section 13000 et seq., requires the State Water Resources Control Board and the nine RWQCBs to adopt water quality criteria to protect State waters. The criteria for the project area are contained in the Water Quality Control Plan for the San Francisco Bay Basin.

Regional and Local

Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan). The Basin Plan for the San Francisco Bay Basin is administered by the State Water Resources Control Board. The Basin Plan is the master policy document that contains descriptions of the legal, technical, and programmatic bases of water quality regulation in the San Francisco Bay region. The plan includes provisions for toxic pollutant management, industrial and construction activities, and erosion and sediment control (RWQCB, 2003).

San Mateo County Stormwater Pollution Prevention Program (STOPPP). The STOPPP program is part of the NPDES permit issued to the County of San Mateo and associated incorporated cities. The program includes best management practices for a variety of activities including concrete and mortar application, earth moving, general construction, operation of heavy equipment, and roadwork and paving. Coverage under the permit is obtained by filing a Notice of Intent with the State Water Resources Control Board (San Mateo County in CPUC, 2003).

Peninsula Watershed Management Plan

The overhead alignment traverses the Peninsula Watershed owned and managed by the SFPUC for the production, collection, and storage of drinking water for the City and County of San Francisco and suburban customers. The Peninsula Watershed

Management Plan provides a policy framework for the SFPUC's regulation of all activities on its watershed lands, including their management as a water supply resource. The watershed encompasses approximately 23,000 acres of the San Francisco Peninsula and includes three storage reservoirs: Crystal Springs, San Andreas, and Pilarcitos. Permit requirements and conditions and mitigation measures identified in topical chapters of this EA and the FEIR would ensure project consistency the following Management Plan policies:

- Policy WQ9: Minimize and where possible prohibit the construction of new roads and trails.
- Policy WQ10: Where new roads or trails are required, locate and design them to follow natural topography, minimize steep slopes, stream crossings, avoid large cut and fill road designs, minimize excavations and avoid highly erodible areas.
- Policy WQ11: Minimize and where possible restrict the construction of new roads or access easements through Watershed Lands to serve new development not in SFPUC ownership to areas of low vulnerability.
- Policy WQ13: Optimize the existing road system such that there are no more roads than necessary for operations and maintenance purposes.
- Policy WQ16: Minimize and where possible prohibit the creation of impervious surfaces on Watershed Lands.
- Policy WA26: All maintenance, operation, and construction activities shall incorporate Best Management Practices (BMPs), as applicable.

3.10.3 Environmental Consequences

3.10.3.1 Alternative 1: Proposed Project and Agreement

The hydrology and water quality analysis conducted for the CPUC's FEIR concluded that installation of the Proposed Project could have potential impacts during construction and operation. PG&E developed Applicant Proposed Measures (APMs) to minimize effects to hydrology and water quality. These APMs are listed below and are also referred to in the following section that addresses project impacts and associated mitigation.

- APM 9.1: Implementation of Erosion Control and Sediment Transport Plan. This plan will be prepared in accordance with RWQCB guidelines and will include applicable BMPs;
- APM 9.2: Environmental Training and Monitoring Program: to communicate environmental concerns and appropriate work practices, including spill prevention and response measures and proper BMP implementation, to all field personnel;
- APM 9.3: Hazardous Substance Control and Emergency Response Plan;
- APM 9.4: Emergency Spill Supplies and Equipment; and
- APM 9.5: Soil Sampling/Waste and Groundwater Characterization.
- APM 9.6: Spill Prevention, Countermeasure, and Control Plans.

Soil Erosion and Sedimentation from Construction Activity and Access Roads (Impact H-1 in FEIR)

Disturbance of soil during construction could result in soil erosion and lowered water quality through increased turbidity and sediment deposition into local streams and San Andreas Lake. Construction of the overhead transmission lines would require minimal excavation and grading for structures and a single short access road at Tower 11/72. Streams would be spanned by the overhead transmission lines. To accommodate the new 230 kV transmission line, the ROW will be increased from 50 feet or less up to 100 feet wide. Vehicles will need to access sites along the transmission line to remove trees, limbs, and vegetation in parts of the right of way. Removal of vegetation, soil disturbance and stockpiling of earth during construction could accelerate soil erosion which would lead to sediments being washed into San Andreas Lake and tributary streams. Most of the overhead transmission line would be located in moderate to high Water Quality Vulnerability zones as defined by the SFPUC within the Peninsula Watershed. The following mitigation will help reduce effects to minor levels.

> ***Mitigation Measure for Erosion and Sedimentation Control:*** An Erosion Control and Sediment Transport Plan, Storm Water Pollution Prevention Plan, and Revegetation Plan shall be prepared (APM 9.1). The SFPUC will review and approve the specific provisions of the erosion control plan that relate to SFPUC Watershed Lands.

Degradation of Water Quality through Spill of Potentially Harmful Materials Used In Construction (Impact H-2 in FEIR)

Accidental spills or disposal of potentially harmful materials used during construction could wash into and pollute surface waters or groundwater. Materials that could potentially contaminate the construction area or spill or leak include lead-based paint flakes, diesel fuel, gasoline, lubrication oil, hydraulic fluid, antifreeze, transmission fluid, lubricating grease, and other fluids. As described below, APMs 9.2 and 9.3 are intended to reduce this impact to negligible or minor levels.

> ***Hazardous Substance Control Mitigation Measure:*** These measures require implementation of an environmental training and monitoring program and a hazardous substance control and emergency response plan. Care shall be exercised to minimize, contain, and properly dispose of paint flakes generated during removal and dismantling of equipment or tubular steel poles coated with lead-based paint. Poles shall be dismantled on paved surfaces or protective sheeting on soil areas to facilitate collection of the paint flakes.

Encroachment into a Floodplain or Watercourse by Permanent Above-ground Project Features (Impact H-4 in FEIR)

Encroachment of a project structure into a flow path could result in flooding of or erosion damage to the encroaching structure, diversion of flows and increased flood risk for adjacent property, or increased erosion on adjacent property. This impact is likely to occur only if permanent features, such as transmission or transition towers, were constructed in a watercourse.

Flood Damage Prevention Mitigation Measure. Aboveground project features such as power poles shall be placed outside the flow path of watercourses unless an engineering analysis, reviewed and approved by the CPUC and SFPUC (for areas within the Peninsula Watershed), demonstrates that watercourse avoidance is not practicable, and that appropriate measures, such as installation of bank protection or raising foundations above flood levels, have been taken to identify and prevent potential flooding and erosion hazards.

Water Quality Degradation through Project-Related Excavation (Impact H-6 in FEIR)

Contaminated soil or groundwater in the path of the project could be disturbed by excavation, resulting in a potential transfer of the contamination to surface waters. The groundwater beneath this area of the watershed, being in the San Francisco Peninsula Watershed, is unlikely to be contaminated because there has not been industrial activity in the area.

Water Quality Degradation Mitigation Measure: PG&E would mitigate for degradation to water quality from project-related excavation through spill prevention, spill cleanup, soil and groundwater sampling, excavation of hazardous materials, proper disposal of hazardous materials, and characterization of waste. These measures are described in more detail in APMs 9.2 through APM 9.5 in the FEIR. Public Health and Safety Section 3.11 also contains measures to ensure proper detection, prevention, and control of contaminated groundwater, and appropriate countermeasures for spills.

3.10.3.2 Alternative 1 Cumulative Impacts

The cumulative impacts to hydrology and water quality from Alternative 1 and other past, present, or future projects identified in the area would be mostly related to construction, which would generally involve stormwater pollution prevention plans to mitigate impacts. The 103 car church parking lot and the townhouses are very close to the proposed transmission route. The impact of increased runoff through construction of impervious areas will be fairly pronounced in the cumulative sense, but contributing effects to this impact from the Proposed Project would be negligible. PG&E shall coordinate with developers of concurrent construction projects within the Proposed Project ROW to ensure that runoff from adjacent construction areas is minimized. The incremental impact of the Proposed Project on water resources is minimal. When considered with the impacts from other actions, the effects on hydrology and water quality are not collectively significant.

3.10.3.3 Alternative 1 Conclusion

Alternative 1 would have local, short-term, minor to moderate, adverse effects on hydrology due to construction of the Proposed Project. Long-term minor effects will likely result from vegetation management in the ROW. Many of the poles being replaced

are located in close proximity to San Andreas Lake, some within several meters (see Figure 2). Chemical or physical changes to water quality may be detectable on a short-term basis. With implementation of mitigation measures, effects would be below water quality standards and within SFPUC desired water quality conditions.

Because there would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park's establishing legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or value related to hydrology and water quality.

3.10.3.4 Alternative 2: No Action Alternative

Under the No Action Alternative, there would be no impacts to hydrology and water quality. The ongoing operation and maintenance of the 60 kV transmission line through the San Francisco Peninsula Watershed does not involve construction related activities and does not affect water quality. Surface flow and water quality would remain unchanged.

3.10.3.5 Alternative 2 Cumulative Impacts

Alternative 2 would not contribute to any cumulative impacts to hydrology or water quality in or adjacent to the San Francisco Peninsula Watershed.

3.10.3.6 Alternative 2 Conclusion

There would be no impacts to water quality from continued operation and maintenance of the 60 kV transmission line. Because there would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park's establishing legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or value related to hydrology and water quality.

3.11 Public Health and Safety

3.11.1 Affected Environment

In the FEIR, sites with known contamination along or near the proposed transmission line route were identified to better define the areas where hazardous waste contaminated sites may impact construction activities. The primary reason to define potentially hazardous sites is to protect worker health and safety and to minimize public exposure to hazardous materials during construction and waste handling. Where encountered, contaminated soil

may qualify as hazardous waste, thus requiring handling and disposal according to local, State, and federal regulations.

The overhead portion of the Proposed Project route traverses the San Francisco Peninsula Watershed between San Andreas Lake and I-280 and Skyline Boulevard. The proposed transmission line route crosses land that is and has been used primarily for open-space recreation and preserve but may have been used in a variety of other ways, including residential housing, commercial businesses, and industrial activities. Existing and past land use activities are used as potential indicators of hazardous material storage and use. For example, many industrial sites, historic and current, are known to have soil or groundwater contamination by hazardous substances. Other hazardous materials sources include leaking underground tanks in commercial and industrial areas, surface runoff from contaminated sites, and migration of contaminated groundwater plumes.

Based on the information from the Environmental Data Resources Inc. Database (a national provider of environmental risk management information), there are four environmentally contaminated sites in the vicinity of the Proposed Project. These underground tank sites are located at a substantial distance from any structures (at least 500 – 1000 feet), are separated from the project area by significant barriers, such as I-280 and/or Skyline Boulevard, and are located down-gradient from the proposed structure sites, making any migration of pollution to the project area unlikely. Therefore, no known contaminated areas occur that could affect the overhead portion of the Proposed Project.

3.11.2 Applicable Regulations, Plans, and Standards

Federal laws that control contamination and hazardous materials include the Federal Toxic Substances Control Act, administered by the U.S. Environmental Protection Agency, the Comprehensive Environmental Response, Compensation, and Liability Act (commonly known as Superfund), and the National Contingency Plan. State laws include the California Hazardous Waste Control Law administered by the California EPA and California Occupational Safety and Health Administration standards for ensuring worker safety in the handling and use of chemicals in the workplace. The San Mateo County Health Services Agency Environmental Health Division is responsible for overseeing the County's Groundwater Protection, Underground Storage Tank, and Hazardous Waste Generator programs. The County, in agreement with the Environmental Protection Agency and the State Water Resources Control Board, provides guidelines and policies for pollution clean-up, inspection, and oversight of pollution caused by leaking underground tanks and chemical spills.

The regulations and programs listed above are described in detail in the FEIR starting on page D.8-5. Since there are no known contaminated areas occur that could be affected by the overhead portion of the Proposed Project, the regulations are not applicable to either alternative. However, if during the course of the construction of the project a contaminant is discovered, PG&E will ensure compliance with federal, state, and local laws and policies.

3.11.3 Environmental Consequences

3.11.3.1 Alternative 1: Proposed Project and Agreement

In analyzing the construction and operation of the Jefferson-Martin Project, a significant impact requiring mitigation would occur if the project would result in:

- Soil contamination, including flammable or toxic gases, at levels exceeding federal, State, or local hazardous waste limits established by 40 CFR Part 261 and Title 22 CCR 66261.21, 66261.22, 66261.23, and 66261.24;
- Mobilization of contaminants currently existing in the soil, creating potential pathways of exposure to humans or other sensitive receptors that would result in exposure to contaminants at levels that would be expected to be harmful; or
- The presence of contaminated soils or groundwater within the project area, and as a result, expose workers or the public to contaminated or hazardous materials during transmission line construction activities, at levels in excess of those permitted by California Occupational Safety and Health Administration (CAL-OSHA) in CCR Title B and the Federal Occupational Safety and Health Administration (OSHA) in Title 29 CFR Part 1910.

Only the construction phase of the Proposed Project has identifiable environmental consequences for public health and safety. Based on the preceding criteria for significance, the potential impacts and their relevant mitigation measures are evaluated below for the Proposed Project. The mitigation measures would be implemented to ensure that potential impacts to public health and safety are minimized. Impacts to public safety involving visitor access, and associated mitigation measures, are addressed in Section 3.12, Recreational Experience.

Potential Release of Hazardous Substances During Construction (Impact HAZ-1 in FEIR)

During construction operations of the overhead portion of the Proposed Project, hazardous materials such as vehicle fuels, oils, and other vehicle maintenance fluids would be used and stored in construction staging yards away from the watershed. Spills of hazardous materials during construction activities could potentially cause soil or groundwater contamination. Improperly maintained equipment could leak fluids during construction operation and while parked, resulting in soil contamination. In addition, the presence of lead-based paint on the existing 60 kV poles scheduled for removal could be disturbed and flake during dismantling. With implementation of the following mitigation measures, adverse effects will be negligible to minor.

> ***Environmental Training and Monitoring Mitigation Measure:*** An environmental training program will be established to communicate environmental concerns and appropriate work practices, including spill prevention, emergency response measures, and proper Best Management Practice (BMP) implementation, to all field personnel. The training program will

emphasize site-specific physical conditions to improve hazard prevention (e.g., identification of potentially hazardous substances) and will include a review of all site-specific plans, including but not limited to, the Project's Storm Water Pollution Prevention Plan (SWPPP), Erosion Control and Sediment Transport Plan, Health and Safety Plan, Waste Characterization and Management Plan, Fire Response Plan, and Hazardous Substances Control and Emergency Response Plan.

A monitoring program will also be implemented to ensure that the plans are followed throughout the period of construction. Best Management Practices, as identified in the Project SWPPP and Erosion Control and Sediment Transport Plan, will also be implemented during the Project to minimize the risk of an accidental release and provide the necessary information for emergency response.

Hazardous Substance Control and Emergency Response Plan Mitigation Measure: PG&E will prepare a Hazardous Substance Control and Emergency Response Plan, which will include preparations for quick and safe cleanup of accidental spills. This plan will be submitted with the grading permit application. It will prescribe hazardous-materials handling procedures for reducing the potential for a spill during construction, and will include an emergency response program to ensure quick and safe cleanup of accidental spills. The plan will identify areas where refueling and vehicle maintenance activities and storage of hazardous materials, if any, will be permitted. These directions and requirements will also be reiterated in the Project SWPPP.

Emergency Spill Supplies and Equipment Mitigation Measure: Oil-absorbent material, tarps, and storage drums will be used to contain and control any minor releases. Emergency spill supplies and equipment will be kept adjacent to all areas of work and in staging areas, and will be clearly marked. Detailed information for responding to accidental spills and for handling any resulting hazardous materials will be provided in the Project's Hazardous Substances Control and Emergency Response Plan.

Water Quality Mitigation Measure*:* The Hazardous Substance Control and Emergency Response Plan shall be approved by the CPUC and the San Francisco Public Utilities Commission (SFPUC) for areas applicable to its jurisdiction, to ensure that impacts associated with potential hazardous substance spills during construction and potential flaking of lead-based paint generated during pole removal and dismantling would be reduced to moderate levels.

Previously Unknown Contamination Could Be Encountered During Construction (Impact HAZ-3 in FEIR)

Unexpected soil and or groundwater contamination could be encountered during grading or excavation. This could impact water quality or affect plant and wildlife communities if it is not identified and properly addressed. The following mitigation measures would ensure that impacts related to this issue are minor or negligible.

Environmental Training and Monitoring Program Mitigation Measure: This measure is described above under "Mitigation Measures to Reduce Potential Release of Hazardous Substances."

Mitigation Measure to Conduct Construction Soil and Groundwater Sampling and Testing: The CPUC, SFPUC, and the RWQCB shall be provided with all pre-construction soil and groundwater sampling and testing information prior to initiation of construction. In the event contaminated groundwater or soils are encountered, these same agencies shall be provided with the proposed extraction and disposal plans for approval prior to further construction in those areas. To reduce agency review time, the framework of these extraction and disposal plans could be presented in a contingency plan submitted to each agency prior to construction.

Mitigation Measure to Observe Exposed Soil: During trenching, grading, or excavation work for the Proposed Project, the contractor shall observe the exposed soil for visual evidence of contamination. If visual contamination indicators are observed during construction, the contractor shall stop work until the material is properly characterized and appropriate measures are taken to protect human health and the environment. The contractor shall comply with all local, State, and federal requirements for sampling and testing, and subsequent removal, transport, and disposal of hazardous materials. In the event that evidence of contamination is observed, the contractor shall document the exact location of the contamination and shall immediately notify the CPUC's Environmental Monitor, describing proposed actions. A weekly report listing encounters with contaminated soils and describing actions taken shall be submitted to the CPUC.

Excavation Could Result in Mobilization of Existing Contamination (Impact HAZ-2 in FEIR)

All known contaminated areas are located in excess of 500 feet and down-gradient from the Proposed Project. Therefore, the presence of the contaminated sites does not pose a potential for contaminated soil or groundwater to be encountered during construction. Mitigation measures would not be required.

Potential Impacts Related to Electric and Magnetic Fields and other Field-Related Concerns (Section D.8.7 in FEIR)

Recognizing that there is a great deal of public interest and concern regarding potential health effects from exposure to electric and magnetic fields (EMFs) from power lines, the FEIR provided information about EMF associated with electric utility facilities and the potential effects of the Proposed Project related to public health and safety. Concerns regarding power line fields include: potential health effects; corona and audible noise; radio, television, electronic equipment interference; induced currents and shock hazards; and effects on cardiac pacemakers. Potential environmental impacts are discussed for these issues in the FEIR, and mitigation measures are recommended.

This EA does not consider transmission line fields in the context of NEPA and determination of environmental effect because there is no agreement among scientists that EMF does create a potential health risk, and because there are no adopted standards for defining health risk from EMF. Since the Proposed Project will be erecting a new 230 kV transmission line and will be rebuilding the existing 60 kV double-circuit line, the magnitude of the fields will be increased.

3.11.3.2 Alternative 1 Cumulative Impacts

Because EMF issues are not considered in this EA, no discussion of cumulative impacts for EMF is presented. This section focuses on hazardous materials and contamination. Any clean-up and disposal of contaminated soil or groundwater resulting from construction of Alternative 1 and from other projects would be a beneficial impact. Clean up of contaminated sites related to other projects would only become an adverse impact when combined volume of contaminated soil requiring treatment from the Proposed Project and other projects exceeds the capacity of the available treatment facilities. Although construction of the Proposed Project would be phased and would likely coincide with few to none of the cumulative projects listed in Section 3.4, additional approved and pending projects not listed in the cumulative scenario due to distance from the project could also impact the capacity of hazardous waste treatment facilities during construction of Alternative 1. However, there are no known sources of contamination along the proposed route, and the potential for impacting known sources on San Francisco Peninsula Watershed lands is relatively low. When considered with the impacts from other actions, the effects are not collectively significant.

3.11.3.3 Alternative 1 Conclusion

With implementation of the mitigation measures, Alternative 1 would have a local, short-term, negligible to minor, adverse effect on public health and safety. Effects would be at low levels of detection and would not exceed the period of construction. If contaminants are accidentally released into the environment, PG&E will ensure they are thoroughly cleaned up. This alternative could also have a beneficial effect if contaminants are found since they will be cleaned up and will no longer pose a threat to public health.

Because there would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park's establishing legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or value related to public health and safety.

3.11.3.4 Alternative 2: No Action Alternative

Activities related to operation and maintenance of the 60 kV transmission line will have no effect on environmental contamination. Current activities do not pose a threat to worker or public health and safety. There are no known contaminated areas that occur that could affect the overhead portion of the existing line in the San Francisco Peninsula Watershed. Current maintenance activities do no require subsurface soil disturbance and therefore would not result in the discovery of soil or groundwater contamination during grading or excavation. Improperly maintained equipment could leak fluids during maintenance operations while parked, resulting in soil or water contamination. Standard operating procedures implemented by PG&E employees help ensure that any impacts related to potential release of hazardous substances during operation activities would either be avoided or negligible.

A discussion about potential effects from EMFs and other field-related concerns from the power lines is provided in the FEIR in Section D.8.7. Concerns regarding power line fields include: potential health effects; corona and audible noise; radio, television, electronic equipment interference; induced currents and shock hazards; and effects on cardiac pacemakers. Environmental impacts are defined for these issues, and mitigation measures are recommended. This EA does not consider power line fields in the context of NEPA and determination of environmental effect because there is no agreement among scientists that EMF does create a potential health risk, and because there are no adopted standards for defining health risk from EMF.

3.11.3.5 Alternative 2 Cumulative Impacts

There will be no cumulative impacts associated with the No Action Alternative. Ongoing operation activities will not affect hazardous materials and contamination.

3.11.3.6 Alternative 2 Conclusion

Impacts from the No Action Alternative to public health and safety in the project area would be local, short-term, negligible, and negative. The most likely impact scenario associated with the continuation of current activities would be from hazardous materials such as vehicle and equipment fuel and oil spills or leaks that could potentially cause soil or water contamination. However, since maintenance activities are infrequent and PG&E maintains their vehicles and equipment, contamination is unlikely and would likely be negligible if it did occur.

Because there would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park's establishing legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or value related to public health and safety.

3.12 Recreational Experience

3.12.1 Affected Environment

The route of the proposed transmission line crosses an area rich in recreational resources. The area includes portions of the 23,000-acre Peninsula Watershed preserve under the jurisdiction of the San Francisco Public Utilities Commission (SFPUC), overlaid with the two NPS Scenic and Recreation Easements. The route crosses or runs adjacent to a number of trails, bikeways, and recreational facilities. Because of the variety of high-quality recreational resources, the area is very popular with local residents and out of area visitors (CPUC, 2003).

The recreational resources in the area along and surrounding the Proposed Project route are listed in Table 6. The major trails can be seen in Figure 2 located in Chapter 1. A more detailed description of recreational resources is provided below.

Table 6: Recreational Resources by Jurisdiction along Project Route

Jurisdiction / Recreational Resource	Hiking	Biking	General/ Local	Athletics	Golfing	
National Park Service Golden Gate National Recreation Area						
Two Scenic and Recreation Easements between the Department of Interior and City and County of San Francisco encumber portions of the Peninsula Watershed for recreation and preservation purposes (DOI, 1969)	•	•				
San Francisco Public Utilities Commission						
San Francisco Peninsula Watershed	•	•				
County of San Mateo						
Sawyer Camp Trail	•	•				
Sawyer Camp Trail Alternate	•					
San Andreas Trail	•	•				
Proposed Sweeney Ridge Connector Trail (San Andreas Trail Extension)	•					

(Source: CPUC 2003)

Part of the purpose of Golden Gate National Recreation Area is to offer opportunities for recreation, education, inspiration, and enjoyment. Recreational resources are defined as sensitive land uses, because typically they are susceptible to disturbances (e.g., noise, traffic, dust, etc.) that could decrease or eliminate the value of the recreational experience. In general, recreational facilities (including parks, open space, playgrounds, play fields, etc.), recreational activities (bicycling, hiking, boating, etc.), and recreationists are considered to be sensitive receptors for purposes of environmental

impact assessment. Table 7 shows the areas where the Proposed Project may impact recreational resources in the Project Area.

The Glenview Drive Transition Tower would allow an overhead crossing of Skyline Boulevard approximately 0.5 miles south of San Bruno Avenue, with a transition tower east of Skyline and the underground route following Glenview Drive north to San Bruno Avenue. The Glenview Drive transition structure would be located south of the proposed transition station between Glenview Drive and Skyline Boulevard, and across the street (west) of the existing City of San Bruno water tank. The tower would be located on the roadway divider between Glenview Drive and Skyline Boulevard on land owned by Caltrans. The Glenview Drive Transition Tower would have the same general setting as the proposed transition station, although it is approximately 1,000 feet east-southeast of the proposed site. There are no recreational facilities in the immediate vicinity of this site, although the San Andreas Trail is on the opposite side of Skyline Boulevard, Buckeye Park is approximately 0.33-mile southeast of the site, and Glenview Park is approximately 0.33-mile northwest of the site.

Table 7: Recreational Resources in the Project Area

Recreational Facility/Area (Area)	Jurisdiction	Location with Respect to Project Route			
		Crosses Through	Intersects	Adjacent	Indirect Connection*
Trousdale Drive Bikeway (Trousdale Drive)					•
Sawyer Camp Access Point (Towers 11/72 to 11/76)	SMCPR		•	•	
GGNRA Sweeney Ridge	NPS				•
Proposed Sweeney Ridge Connector Trail/San Andreas Trail Extension	SMCPR			•	
Skyline Boulevard Bikeway (Overhead crossing at Tower 14/94)			•		

*Indirect Connection indicates that although the project is not directly adjacent, does not cross, and is not intersected by the recreation resource, the resource is in the vicinity (approximately 0.25 miles) of the project and could be indirectly affected by project activities.
(Source CPUC 2003)

The Trousdale Drive Transition Structure is at Tower 11/70, on SFPUC Watershed Lands, west of the southwestern end of Trousdale Drive and immediately adjacent to an existing SFPUC access road. The Sawyer Camp Trail is approximately 0.25 to 0.5 miles west and north of the structure and the Skyline Boulevard and Trousdale Drive Bikeways are approximately 0.25 to 0.5 miles east of the structure. No other recreational facilities are in the vicinity, and there is no public access to this part of the Watershed Lands.

3.12.2 Applicable Regulations, Plans, and Standards

The following are federal, regional, and local recreation regulations, plans, and standards that are applicable to recreational resources and activities potentially affected by the Proposed Project:

Department of the Interior, Grant of Scenic and Recreation Easement, San Francisco Peninsula Watershed Lands
See Section 1.6 in Chapter 1 for a description of the Easement.

San Mateo County Trails Plan
With mitigation, the Proposed Project is consistent with the following recreation related policies from the San Mateo County Trails Plan:

- **Policy 6.34.1:** Public improvement projects that may impact existing or proposed trails should be designed to facilitate provision of shared use.
- **Policy 6.13.2:** The San Mateo County Planning Department shall monitor proposed development within proposed trail routes. The Planning Department shall work to ensure that the proposed trail routes are considered with all new development.
- **Policy 6.39.2:** Development projects on lands that include a trail route as shown on the County Trails Plan Map may be required to dedicate and improve such trail to the extent it is roughly proportional to the impacts of the proposed development.

San Mateo County General Plan
The entirety of the Proposed Project is on land designated Open Space by the San Mateo County General Plan. None of the property is on lands under Williamson Act contracts (SMCPBD in CPUC, 2003). San Mateo County has promulgated many policies aimed at the protection of biological resources, visual quality, cultural resources, park and recreation facilities, land use, and more. Specific policies related to the Jefferson Martin Project (including visual resources, biological resources, and recreation) that are identified in the San Mateo County General Plan were reviewed. With inclusion of mitigation measures, the project would be consistent with the County's policies, as listed below.

- Policy 6.5(a): Attempt to provide appropriate access and conveniences for all people in park and recreation facilities
- Policy 6.5(c): Attempt to provide adequate access for emergency services to recreational facilities.
- Policy 6.18: Regulate the encroachment into park and recreation facilities by non-park uses.

Peninsula Watershed Management Plan
See Section 1.6 in Chapter 1 for a summary of the Peninsula Watershed Management Plan. The following policy pertains to recreational resources in the Peninsula Watershed:

Policy WA2: Prohibit the construction of new trails and unsupervised access to existing roads and trails not addressed in this Plan.

3.12.3 Environmental Consequences

3.12.3.1 Alternative 1: Proposed Project and Agreement

Construction-related and operation-related activities were evaluated in the development of this EA. It was determined that the Proposed Project could result in major impacts on recreational resources if it met either of the following criteria:

- Increase the use of existing neighborhood and regional parks or recreational facilities such that substantial deterioration of the facility would occur.
- Long-term disruption of recreational activities that would affect the majority of visitors. Visitors would be highly aware of the effects associated with the project and changes in visitor use and experience would be readily apparent.

Alternative 1 would have identifiable environmental consequences on recreational resources. Mitigation measures have been developed to ensure that impacts from the project are below the threshold for major impacts. Disruption of recreational activities can occur not only through the physical restriction of activities such as recreational areas, trails, parking lots, or facility entrances being blocked by construction activities or equipment, but can also occur through disruption of the user's enjoyment of the recreational experience. Construction activities within the 3.3-mile corridor would last approximately six months. A large number of the recreational resources in the study area are valued for their quiet atmosphere and natural beauty. Noise, vibration, dust, and odor from construction activities can disrupt users' enjoyment of natural serenity. Similarly, views of construction equipment or the addition or change of other industrial structures, such as transmission towers, conflict with the natural background of many of these recreational resources, and can also disrupt the recreationists' enjoyment and recreational activities.

It is anticipated that nearly all construction activities will occur simultaneously with recreational use. Construction of the 3.3-mile overhead segment of the line will take place in phases over a six month period. Since PG&E does not anticipate the need to close trails, the public will have access to the trails throughout the construction period. Traffic control and temporary barriers will be established to ensure worker and public safety. There may be temporary trail closures when moving large equipment or vehicles into a designated construction area. Portions of the Sawyer Camp trail may be partially blocked for traffic control and visitor safety. If trail closure is necessary beyond temporary traffic control, closures will be timed so that periods of peak visitor use, including mornings, evenings, weekends, and holidays, are avoided.

Construction Related Impacts

Temporary impacts would result from clearing and grading structure foundation pads, drilling pier foundations, removal of existing structures, erection of new support structures, and conductor stringing. Dust generation in the vicinity of trails would be quite limited, as no new or expanded access roads would be required in the vicinity. Noise levels and diesel odors would vary by construction activity and equipment in use, ranging from light trucks to heavy ground-working equipment and use of helicopters to carry large segments of transmission structures. Although the noise, dust, and odors generated during construction could constitute a nuisance to people using the recreational facilities, the construction at each location would be of short duration.

Peninsula Watershed Lands. Replacement of the existing 60 kV transmission lines and towers with new 230 kV/60 kV lines and towers would reduce the aesthetic value of the Peninsula watershed and associated trails. Dust, noise, and traffic congestion related to construction activities could adversely affect visitor experience. Construction activities could also result in temporary trail closures and disrupt access to different park areas or trails.

Trousdale Drive Bikeway. Although the overhead portion of Alternative 1 would not cross or intersect the Trousdale Drive Bikeway, it could be seen by users of the bikeway. Construction activities in San Francisco Peninsula Watershed Lands would largely be screened from the view of Trousdale Drive Bikeway users, but could degrade views to the northwest from the route. Impacts resulting from construction would be minor due to distance from the bikeway and screening.

Sawyer Camp Trail and Access Point. Sawyer Camp Trail is one of the most heavily used trails in San Mateo County (Hertzberg, *Pers. Com*, 2005). The overhead portion of the Proposed Project runs adjacent and parallel to the Sawyer Camp Trail between structures 11/73 and 12/78 for approximately three-quarters of one mile. New transmission structures would be installed adjacent or parallel to the trail to replace existing towers along this route. Construction activities would temporarily reduce the recreation value of the trail and could result in temporary restrictions to trail access or trail closures. Access points for Sawyer Camp Trail may need to be temporarily closed to move heavy equipment on and off of access roads for construction purposes. The majority of construction would occur east of the trail.

San Andreas Trail and Access Point. The Proposed Project runs roughly adjacent and parallel to the San Andreas Trail for approximately 2 miles between Structures 11/78 and 14/93. New transmission structures would be installed adjacent or parallel to the trail to replace existing structures along this route. Construction activities along the San Andreas Trail would occur for between one and two months. The San Andreas Trail, like the Sawyer Camp Trail, is heavily used by recreational users. The majority of the trail is paved and passes through a portion of the Peninsula Watershed Lands with views of the San Andreas Reservoir and is popular with joggers, cyclists, and hikers. The northern portion of the trail runs adjacent to and west of Skyline Boulevard. Many of the towers

that would be replaced are immediately adjacent to the trail and construction activities at these points would significantly degrade views and may impede access along the trail.

Glenview Drive Transition Tower
Both Buckeye Park and Glenview Park are screened from the Glenview Drive Transition Tower by trees, residences, and other intervening uses, such as San Bruno Avenue and a commercial area between Glenview Park and the Glenview Drive site. There would be views of the site from the San Andreas Trail, but construction of the transition structure at this site would have no direct impact on recreational resources.

Trousdale Drive Transition Structure
Sawyer Camp Trail, Skyline Bikeway, and Trousdale Bikeway are all screened from the Trousdale Drive Transition Structure site by trees, roads, and intervening terrain. Construction of a transition tower at these sites would have no impact on recreational resources.

Mitigation Measures for Construction Related Impacts
Table 8 describes Applicant Proposed Measures (APMs) that will be implemented by PG&E to minimize impacts to recreational resources.

Table 8: Mitigation Measures for Construction Related Impacts to Recreational Resources

Mit # in FEIR	Description
APM 5.2	A public-liaison representative will provide the public with advance notification of construction activities. Concerns related to dust, noise, odor, and access restrictions with construction activities will be addressed within this program.
APM 5.3	No construction that affects trail use will be conducted on holidays.
APM 5.4	All construction activities, including temporary trail closures, affecting the parklands and trail systems of the Peninsula Watershed Lands and Edgewood County Park Preserve will be coordinated, respectively, with the SFPUC and San Mateo County Parks and Recreation Department at least 30 days before construction begins in these areas.
APM 5.5	Signs directing vehicles to alternative park access and parking will be posted in the event construction temporarily obstructs parking areas near trailheads.
APM 5.6	PG&E will coordinate with city officials with jurisdiction over local parks near the route at least 30 days prior to construction. PG&E will also post signs alerting park users to construction activities at least a week in advance of construction near parks.
APM 5.7	Signs advising recreation users of construction activities and directing them to alternative trails or bikeways will be posted on both sides of all trail intersections or as determined through PG&E coordination with the respective jurisdictional agencies.
APM 5.8	Where helicopters are used for construction, signage advising equestrians of construction timeframes with helicopter use will be posted at all equestrian trail-access points within the vicinity of the flight paths. These signs will be checked and maintained daily.
V-1a	Reduce visibility of construction activities and equipment
L-4a	Provide construction notification in newspapers.
L-4b	Provide public liaison person and toll-free information hotline

Mit # in FEIR	Description
T-1a	Prepare Transportation Management Plans
R-2a	Avoidance of Peak Use Periods and On-Site Notification. PG&E shall not schedule construction during peak use periods, (i.e., weekends and holidays) for recreational facilities listed below. In addition, PG&E shall provide onsite notification of recreational access closures at least two weeks in advance, through the posting of signs and/or notices at all public entrances. Documentation of such notification will be submitted to the CPUC.

(Source CPUC, 2003)

Operation Related Impacts

Transmission towers for the 230 kV/60 kV overhead transmission line would be installed along the proposed overhead route through the San Francisco Peninsula Watershed parallel to San Andreas Lake. None of the towers would be installed in or adjacent to trails in such a way that would permanently restrict access. In the operation of the Jefferson-Martin Project, the visual impact of larger towers to recreation facility users can distract from the users' recreation experience. Much of the recreational value of the parks, preserves, bikeways, and other facilities along the overhead route is associated with the natural beauty and aesthetics of the resource. Degradation of the visual quality of recreation resources due to changes in tower locations and structures could reduce the recreational value of these resources as well as the enjoyment of recreationists. Additional lines and wider rights-of-way could also degrade the scenic value of the environment, thus impacting the recreation experience of users. The ROW is currently up to 50 feet and will increase up to 100 feet wide. Increased height and new placement of the transmission lines and towers would lead to visual impacts that are potentially significant.

A discussion of each recreational facility that would be affected by the presence of the Proposed Project is included below. Mitigation Measures include the use of tubular steel poles, painting poles with appropriate colors to better blend in with the surrounding environment, eliminating four towers, and relocating towers to less visible places. All four of those measures are discussed in Visual Resources, Section 3.6. Mitigation also includes fulfillment of the terms of the Settlement Agreement between PG&E and the NPS, including the acquisition and conservation of land and trail enhancements in the vicinity of the project. Without mitigation, recreational resources could be significantly affected due to the presence of taller transmission poles, more conductors, and larger rights-of-way. With mitigation, effects would be moderate.

Peninsula Watershed Lands / Golden Gate National Recreation Area Easements. Transmission towers would be installed along the proposed overhead route through the Watershed Lands, but none would be installed in or adjacent to trails in such a way that would permanently restrict access. The increased height and new placement of the transmission lines and towers could lead to recreation impacts from degradation of views from Watershed Lands. To reduce impacts, towers will be painted with appropriate colors to blend in with the surrounding environment (V-6a in FEIR).

Mitigation Measure to provide Funds for Conservation and Recreational Resources: Alternative 1 includes implementation of the Proposed Project and the terms of the Settlement Agreement (Agreement). Terms of the Agreement include the provision of funds for the improvement of recreational, scenic, natural, and/or open space values. Mitgation must meet the criteria established in Appendix A. These compensation measures will have long-term benefits to recreational resources within GGNRA.

If the Sweeney Ridge Gateway Parcel is acquired, it will help offset long-term impacts to recreational resources in the San Francisco Peninsula Watershed by ensuring that the land is not developed and that scenic, natural/open space, and recreational values are enhanced and maintained.

Sawyer Camp Trail and Access Point. The Sawyer Camp Trail is one of the most heavily used trails in San Mateo County, with approximately 350,000 visitors per year (Herzberg, Pers. Com.). The increased height and new placement of Towers 11/73, 11/75, and 12/76 could significantly reduce the recreational value of Sawyer Camp Trail and the enjoyment of its users without mitigation. To minimize impacts below major, Tower 11/75 will be relocated from the Sawyer Camp Trail. Mitigation measures requiring the use of tubular steel poles and painting poles with appropriate colors to better blend in with the surrounding environment will also be implemented.

San Andreas Trail and Access Point. The increased height and new placement of Towers 11/75 through 14/94 could significantly reduce the recreational value of San Andreas Trail and the enjoyment of its users without mitigation. In order to minimize that impact below the "major" level of significance, the FEIR required relocation of Tower 13/84 along with the implementation of mitigation measures requiring the use of tubular steel poles, painting poles with appropriate colors to better blend in with the surrounding environment, and eliminating Towers 13/89, 14/91, 14/92, and 14/94.

3.12.3.2 Alternative 1 Cumulative Impacts

Cumulative recreation impacts could occur through 1) construction-related disturbances of the Proposed Project in combination with other SFPUC activities in the San Francisco Peninsula Watershed resulting in impeded recreation access or disruption to recreational uses; or 2) construction and operations of the Proposed Project precluding future recreational uses.

Recreational resources potentially impacted by the Proposed Project include the planned Sweeney Ridge Connector/San Andreas Trail Extension and the Skyline Boulevard Bike Lane. Impacts resulting from construction, dust and noise in particular, would be short-term in nature and any trail closures would be temporary. The location of the proposed transition station at the northwest corner of San Bruno Avenue and Glenview Drive in San Bruno would preclude the use of the Church of the Highlands parking lot as trailhead parking for the San Andreas Trail, and would disrupt the improvement of a San Andreas Trail trailhead at this location. SFPUC maintenance activities, as described under Section

3.4, could result in further disturbances to individuals recreating in the San Francisco Peninsula Watershed. The Cattle Hill Restoration Project may temporarily impact recreational resources in San Mateo County through temporary closures and disturbance, but will have long-term benefits. Impacts to the recreational experience from Alternative 1 and other actions range from negligible to major in intensity without mitigation. Mitigation measures will be implemented to minimize effects. When considered together, the effects are not collectively significant.

3.12.3.3 Alternative 1 Conclusion

With implementation of the mitigation measures, Alternative 1 would have regional, short and long-term, minor to moderate, adverse effects on recreational resources. Construction and facility related impacts would be readily apparent and would affect some visitors to the Watershed. A change in the natural character and associated values would occur due to construction disturbances, a larger ROW, and higher poles with more conductors between them. Change to the natural character would be measurable, but localized. While the construction impacts would be short-term, the degradation of the view would be long-term. Trail improvements and land acquisition as described in the Settlement Agreement, would enhance the recreational experience in the San Francisco Peninsula Watershed or on nearby lands, and could protect other lands from potential development.

Because there would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park's establishing legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or value related to the recreational experience.

3.12.3.4 Alternative 2: No Action Alternative

The No Action Alternative would not change recreational resources in the project area and therefore, would have no new impacts. There is currently a major impact to the visitor experience from the 60 kV transmission line and the 25 existing towers. However, those lines have been in place prior to federal acquisition of the Easement lands in 1969. Therefore, impacts to recreational resources from the existing towers and lines will not be addressed. Impacts related to ongoing operation and maintenance of the 60 kV line would continue. The effects of PG&E maintenance activities would be localized, short-term, and generally negligible to minor.

3.12.3.5 Alternative 2 Cumulative Impacts

The No Action Alternative would result in on-going adverse, but negligible, impacts to the recreational experience. Impacts from the No Action Alternative include operation and maintenance of the 60 kV transmission line. Other impacts are related to SFPUC maintenance of the San Francisco Peninsula Watershed. All cumulative impacts range

from negligible to moderate in intensity. When considered with impacts from other actions, the effects are not collectively significant.

3.12.3.6 Alternative 2 Conclusion

The effects of the No Action Alternative would be long-term, localized, adverse, and negligible to minor. Maintenance activities would likely not last longer than several hours to one day. Changes in visitor use and experience would be below the level of detection or slight.

Because there would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park's establishing legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or value related to the recreational experience.

3.13 Air Quality

3.13.1 Affected Environment

The Jefferson-Martin Project would be constructed within the San Francisco Bay Area, an area of moderately wet winters and dry summers. Average summertime high temperatures are between 70 and 80°F in San Mateo and are below 75°F at the San Francisco International Airport. Average wintertime low temperatures in San Mateo range from 40 to 45°F. The prevailing winds along the eastern slope of the peninsula are generally from the west depending on the influence of local topography. Air quality in the Bay Area is affected by persistent temperature inversions, persistent onshore winds, coastal mountain and valley topography, and available sunlight.

The environmental quality of ground-level air (air quality) is determined by measuring ambient concentrations of pollutants that are known to have deleterious effects. The degree of air quality degradation is then compared to the current National and California Ambient Air Quality Standards (NAAQS and CAAQS). Historically, violations of federal and state ambient air quality standards for ozone, particulate matter, and carbon monoxide have occurred throughout the San Francisco Bay Area. Since the early 1970s, substantial progress has been made toward controlling these pollutants. Although some air quality improvements have occurred, violations of ambient air quality standards for particulate matter and ozone persist.

3.13.2 Applicable Regulations, Plans, and Standards

Federal, State, and regional agencies have established air quality standards, regulations, and plans that affect the Proposed Project. The major regulations, plans, and standards are listed below with a brief description of what each is intended to do and the agency

responsible for oversight and enforcement. A detailed description of each can be found in the FEIR starting on page D.10-2.

The Federal Clean Air Act
The Federal Clean Air Act directs local air quality management agencies to implement programs that lead to attainment and maintenance of NAAQS. The US Environmental Protection Agency (EPA) establishes the NAAQS and reviews the plans and regulations developed by the local agencies in their efforts to attain the standards. The EPA also oversees implementation of federal programs for permitting new and modified stationary sources, controlling toxic air contaminants, and reducing emissions from motor vehicles and other mobile sources.

Ambient Air Quality Standards
Regulation of air quality began in California before being coordinated at the national level. State-level standards established and regulated by the California Air Resources Board (CARB) are more stringent than those set forth by the EPA. The CARB designates those portions of the State where federal or State ambient air quality standards are not met as "nonattainment" areas. The Bay Area Air Quality Management District (BAAQMD) implements standards and policies set forth by the CARB. The BAAQMD rules and regulations apply to all sources of emissions within the nine-county Bay Area region, including all of San Mateo County.

All projects that depend on federal assistance or permits require a demonstration by the federal permitting agency that the project would comply with the General Conformity rule. Under 40 CFR (Code of Federal Regulations) Section 93.153 (Applicability), if the direct and indirect emissions related to the federal assistance or permitting exceed certain *de minimis* emission thresholds, then the federal agency providing the oversight would be required to perform a comprehensive conformity analysis. The analysis would be necessary to determine whether the federal action conforms with the local air quality management plans for attainment and maintenance of the NAAQS. In the San Francisco Bay Area, the *de minimis* emission thresholds are 100 tons per year of either volatile organic compounds (VOC), nitrogen oxides (NO_x), or carbon monoxide (CO). Particulate matter ten micrometers in diameter and smaller (PM_{10}) emissions are not considered by the General Conformity rule because the Bay Area Air Basin is federally designated as attainment for PM_{10}.

The California Clean Air Act
The California Clean Air Act went into effect on January 1, 1989, with the mandate that local air quality districts achieve the health-based CAAQS at the earliest practicable date.

Asbestos Airborne Toxic Control Measures
CARB requires special dust control measures for any construction and grading operations in areas known to contain serpentinite soils with naturally occurring asbestos.

Statewide Portable Equipment Registration Program
Established by CARB, this program allows operation of portable equipment throughout California without having to obtain individual permits from local air districts.

Bay Area Regional Plans, Programs, and Requirements
Bay Area Air Quality Management District rules and regulations apply to all sources of emissions within the nine-county Bay Area region, including all of San Mateo County. The following are applicable to the project:

- **Bay Area Clean Air Plan**
- **Ozone Attainment Plan**
- **Nuisances.** BAAQMD Regulation 2, Rule 1, General Requirements, prohibits any source from causing a public nuisance.
- **Odorous Substances Regulation.** The BAAQMD manages an odor control program to minimize nuisances. Sources that generate odors which travel into adjacent properties are regulated by the provisions of BAAQMD Regulation 7, Odorous Substances.

3.13.3 Environmental Consequences

3.13.3.1 Alternative 1: Proposed Project and Agreement

Construction activities can be grouped into those occurring on-site and off-site. Air pollutant emissions during on-site construction would principally consist of fugitive particulate matter (dust) generated from travel on unpaved surfaces and material handling and exhaust emissions from mobile diesel and gasoline-powered construction equipment. Off-site exhaust emissions would result from the workers commuting to staging areas, transporting workers from staging areas to the work sites, trucks hauling materials (e.g., concrete, tower materials, and conductors) to the work sites, and dump trucks hauling away construction debris (e.g., dirt displaced by new tower foundations and underground excavation).

Dust and diesel exhaust odors could adversely affect residents in homes adjacent to or in proximity to the alignment, as well as individuals recreating in the San Francisco Peninsula Watershed. Emissions of other contaminants (NOx, VOC, CO, SO_2, and diesel-related PM_{10}) that would occur in the exhaust from heavy equipment are included in the region-wide inventory that is the basis for regional attainment and are not expected to impede attainment of maintenance of the ambient air quality standards.

> ***General Mitigation Measure for Air Quality Impacts:*** All personnel working on the project will be trained prior to starting construction on methods for minimizing air-quality impacts during construction. Workers will be encouraged to carpool whenever possible, refill gasoline fuel tanks in the afternoon, and minimize idling of engines. Workers will be directed to the importance of the Spare the Air program in helping to maintain air quality within the Bay Area.
>
> ***Mitigation Measure to Provide Construction Notification and Minimize Construction Disturbance:*** PG&E or its construction contractor shall provide

advance notice, between two and four weeks prior to construction, by mail to all residents or property owners within 300 feet of the alignment. The announcement shall state specifically where and when construction will occur in the area. If construction delays of more than 7 days occur, an additional notice shall be made, either in person or by mail. Notices shall provide tips on reducing noise intrusion, for example, by closing windows facing the planned construction. PG&E shall also publish a notice of impending construction in local newspapers, stating when and where construction will occur. Prior to construction, copies of all notices shall be submitted to the CPUC.

Mitigation Measure to Provide Public Liaison Person and Toll-Free Information Hotline: PG&E shall identify and provide a public liaison person before and during construction to respond to concerns of neighboring residents about noise, dust, and other construction disturbance. Procedures for reaching the public liaison officer via telephone or in person shall be included in notices distributed to the public. PG&E shall also establish a toll-free telephone number for receiving questions or complaints during construction and shall develop procedures for responding to callers. Procedures shall be submitted to the CPUC for review and approval prior to construction.

Dust Emissions during Construction (Impact A-1 FEIR)

Many construction activities associated with installation of the overhead line, especially site preparation and installing structure foundations, would require travel on unpaved roads and surfaces that would create fugitive dust (PM_{10}). Any soil disturbance from construction equipment would generate PM_{10} emissions. The quantity of PM_{10} emissions can very greatly depending on the level of activity, the specific activities taking place, and weather and soil conditions. An estimate of the fugitive dust from construction of the transmission line and transition station is shown in Table D.10-9 in the FEIR. Dust generation in the vicinity of residences would be quite limited, as no new or expanded access roads would be required in the vicinity. Controlling dust in the form of PM_{10} during construction is useful in minimizing nuisance conditions and avoiding violations of the state ambient air quality standards. The BAAQMD recommends that a standard set of feasible dust control measures be implemented for all construction activities.

Mitigation Measures for Dust Emissions: The BAAQMD does not recommend quantification of construction-related emissions but rather recommends implementation of specific measures that can reduce the potential impacts to a level that would be considered less than significant. The BAAQMD Control Measures, described in Table 9, will be implemented at all construction sites to minimize PM_{10} emissions.

Table 9: BAAQMD Control Measures for Construction Emissions of PM_{10}

Basic Control Measures (to be implemented at all sites)
Water all active construction areas at least twice daily.
Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard.
Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and the staging area at construction sites.
Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites.
Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.
Enhanced Control Measures (to be implemented at construction sites greater than 4 acres in area)
Hydroseed or apply (non-toxic) soil stabilizers to inactive construction area (previously graded areas inactive for ten days or more).
Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (e.g., dirt, sand).
Limit traffic speeds on unpaved roads to 15 mph.
Install sandbags or other erosion-control measures to prevent silt runoff to public roadways.
Replant vegetation in disturbed areas as quickly as possible.
(Source: BAAQMD in CPUC, 2003)

Equipment Emissions (Impact A-2 in FEIR)

Use of construction equipment and emissions from motor vehicles used to mobilize the workforce and materials for construction would cause a potentially significant air quality impact by emitting pollutants that would contribute to existing regional violations of the PM_{10} and ozone standards. Diesel odors would vary by construction activity and equipment in use, ranging from light trucks to heavy ground-working equipment to string sock line. The following mitigation measures will help minimize impacts to a minor level.

Mitigation Measure for Equipment Emissions: The following measures shall be implemented during construction:

- Construction workers shall carpool when possible.
- Vehicle idling time shall be minimized (i.e., 5-minute maximum).
- Alternatively fueled construction equipment shall be used where feasible.
- Equipment shall be properly tuned and maintained.

PG&E shall document compliance with this measure by submitting an exhaust emission reduction plan to the CPUC for review and approval. The plan shall document the approach for ensuring carpooling, use of alternatively-fueled vehicles, and shall define how and where records of equipment tuning and maintenance will be kept for CPUC review during construction. PG&E shall ensure that all construction workers are aware of the vehicle idling restriction by including an explanation of this requirement in the Worker Training Program. With implementation of these FEIR required measures, impacts to air quality during construction would be minimal and no further measures are required.

Operation Related Impacts
Vehicular and machinery emissions associated with maintenance and repair of the transmission line would be the only long-term sources of emissions during the operational phase of the project. Direct emissions from project vehicular traffic for maintenance activities would cause a negligible impact, and there would be no stationary sources of emissions related to the project. Therefore, potential impacts associated with project operation are considered to be minor, and no further mitigation would be required.

3.13.3.2 Alternative 1 Cumulative Impacts

The potential for the Proposed Project to result in cumulative air impacts would be limited to the construction period. Cumulative impacts during the operation of the project are not expected since negligible amounts of emissions would be generated during inspection and maintenance activities. PG&E proposes to use a range of equipment to construct the project. Although some pieces of equipment may be powered electrically, each piece of heavy equipment could be a source of exhaust emissions and much of the equipment would be operating simultaneously at various points along the 27-mile project route, within and outside of the NPS Easement lands. Therefore, other segments of the Jefferson-Martin project could cumulatively affect air quality.

Future and proposed construction projects in close proximity to the Proposed Project could have cumulative air quality impacts. There is the possibility of a variety of projects, mainly roadway improvements or local residential development, occurring at the same time as project construction. The pollutants generated from construction of these projects would have an impact on ambient air quality that would overlap with those of the Proposed Project if the construction work occurs in close proximity and at the same time. Some residents in close proximity to the Proposed Project could be exposed to longer periods or increased amounts of dust and odors as a result of these other projects. Mitigation measures identified for Alternative 1 would be implemented, and other cumulative projects would also need to comply with local ordinances prohibiting nuisances. Larger cumulative projects would probably incorporate BAAQMB recommendations for minimizing impacts. Implementing the mitigation measures would ensure that air quality impacts would not be cumulatively considerable.

3.13.3.3 Alternative 1 Conclusion

With implementation of the mitigation measures, Alternative 1 would have a local, short-term, negligible to minor, adverse effect on air quality. Project construction could result in minor impacts to people recreating in the San Francisco Peninsula Watershed and to communities adjacent to the Proposed Project. Project operation would result in negligible impacts that would be below the level of detection, and though impacts would last the life of the project, they would be related to inspection and maintenance of the transmission lines and would be short-term.

Because there would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park's establishing legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or value related to air quality.

3.13.3.4 Alternative 2: No Action Alternative

Emissions from vehicles and equipment associated with inspection and maintenance of the transmission line would be the only sources of emissions for the No Action Alternative. Direct emissions from project vehicular traffic would be infrequent and would cause a negligible impact. Changes in air quality would be below the level of detection. Although long-term, impacts associated with project operation on air quality are considered to be negligible.

3.13.3.5 Alternative 2 Cumulative Impacts

The No Action Alternative would result in on-going adverse, but negligible, impacts to air quality. When considered with impacts from other actions, the effects are not collectively significant.

3.13.3.6 Alternative 2 Conclusion

Air quality impacts associated with the No Action Alternative would be local, long-term but infrequent, negligible, and adverse. Impacts that would occur are related to emissions and dust from vehicles accessing the transmission lines and poles for inspection and maintenance. Emissions and dust from maintenance operations may also have a negligible affect to air quality.

Because there would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park's establishing legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or value related to air quality.

3.14 Noise

3.14.1 Affected Environment

The fundamental measure of sound levels is expressed in units of decibels (dB) using a logarithmic scale. The frequency weighting scale known as A-weighting best reflects the human ear's reduced sensitivity to low frequencies and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA) is cited in most noise criteria.

For most activities, sound production tends to be widely variable over time. For simplicity, sound levels are usually best represented by an equivalent level over a given time period (L_{eq}) or by an average level (in dBA) occurring over a 24-hour day-night period (L_{dn}) with a 10 dBA penalty applied to nighttime sounds occurring between 10:00 p.m. and 7:00 a.m.

Noise levels are generally considered low when ambient levels are below 45 dBA, moderate in the 45 to 60 dBA range, and high above 60 dBA. The surrounding land uses dictate what noise levels would be considered acceptable or unacceptable. Lower levels are expected in rural or suburban areas than what would be expected for commercial or industrial zones.

Ambient Noise Levels
Noise measurements taken by PG&E along Skyline Boulevard in the Town of Hillsborough show 24-hour average levels to be around 78 L_{dn}. These levels are dominated by traffic on I-280, with lower levels of noise caused by traffic on Skyline Boulevard. Other noise in the area is generated by use of recreational facilities. Approximately 122,000 vehicles travel this portion of I-280 daily. Any receptor located within 375 feet of the freeway centerline, having an unobstructed line-of-sight to the traffic, may be exposed to existing traffic noise levels over 75 L_{dn}.

Recreational uses, including the Crystal Springs Golf Course and the trails east of San Andreas Lake, surround the northern portion of the proposed alignment in this area. No vibration-sensitive land uses (e.g., high-precision manufacturing facilities or research facilities with optical and electron microscopes) were found during surveys of the project area.

3.14.2 Federal and State Standards

There are no federal noise standards that directly regulate environmental noise. Table 10 (reproduced from Table D.11-2 in the FEIR), provides a summary of recommended noise levels for protecting public health and welfare with an adequate margin of safety. With regard to noise exposure and workers, the federal Occupational Safety and Health Administration (OSHA) establishes regulations to safeguard the hearing of workers exposed to occupational noise (29 CFR Section 1910.95, Code of Federal Regulations).

Table 10: Examples of Protective Noise Levels Recommended by EPA

Effect	Maximum Level	Exterior or Interior Area
Hearing loss	$L_{eq}(24) < 70$ dB	All areas.
Outdoor activity interference and Annoyance	$L_{dn} < 55$ dB	Outdoors in residential areas and farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis for use.
	L_{eq} (24) < 55 dB	Outdoor areas where people spend limited amounts of time, such as schoolyards, playgrounds, etc.
Indoor activity interference and annoyance	$L_{dn} < 45$ dB	Indoor residential areas.
	$L_{eq}(24) < 45$ dB	Other indoor areas with human activities such as schools, etc.

(Source: U.S. EPA in CPUC, 2003) *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. Section 4, Identified Levels of Environmental Noise In Defined Areas. March 1974. $L_{eq}(24)$ = Represents the sound energy averaged over a 24-hour period. L_{dn} = Represents the L_{eq} with a 10 dB nighttime penalty.*

3.14.3 Environmental Consequences

3.14.3.1 Alternative 1: Proposed Project and Agreement

The noise analysis conducted for the CPUC's FEIR, concluded that installation of the overhead route portion of the Jefferson-Martin Project could have potential noise impacts during construction and operation. Noise can adversely affect park resources by modifying or intruding upon the natural soundscape, and can also indirectly impact resources by interfering with sounds important for animal communication, navigation, mating, nurturing, predation, and foraging functions. Noise can also adversely impact park visitor experiences by intruding upon or disrupting experiences of solitude, serenity, tranquility, contemplation, or a natural environment.

Construction Noise (Impact N-1 in FEIR)
Construction noise could substantially, but temporarily, increase ambient noise levels in the vicinity of the overhead line work, including tower locations and access routes, due to use of equipment such as crane, augers, compressors, air tampers, generators and trucks. Temporary impacts would result from clearing and grading tower foundation pads, drilling pier foundations, removal of existing towers, erection of new support towers, and conductor stringing. Noise levels would vary by construction activity and equipment in use, ranging from light trucks to heavy ground-working equipment to string sock line. Although the noise generated during construction could constitute a nuisance to neighboring residents and SFPUC watershed visitors, the construction at each location would be of short duration, and construction noise is a commonly accepted by-product of growing urban development in the Bay Area. This impact would have a moderate impact on local residents and individuals recreating within the San Francisco Peninsula Watershed.

Construction of the overhead transmission line would generate noise that could adversely affect residents in homes adjacent to or in proximity to the alignment. Construction disturbance to single-family and multi-family residences near the Glenview Transition Pole location would be minor due to the distance and vegetation buffering from such residences to the site. Mitigation Measures, described below, will be implemented to minimize construction impacts.

Ground-borne Vibration (Impact N-2 in FEIR)
Ground-borne vibration could cause a temporary nuisance during construction. Vibration levels from heavy equipment transport, grading, tamping, and pile-driving activities may be perceptible to residents immediately adjacent to the construction work.

Corona Noise from Operation of the Overhead Transmission Line (Impact N-3 in FEIR)
The physical manifestations of corona include a crackling or hissing noise and very small amounts of light. The highest noise level generated by the Corona of a 230 kV line during fair weather conditions would be below the ambient noise level in the project area at ground level. As such, corona noise would be minor.

Noise from Inspection and Maintenance Activities (Impact N-4 in FEIR)
Routine inspection and maintenance of the transmission lines would be accomplished by using either ground access or an occasional helicopter fly-over. The existing structures require inspection and maintenance. No increases in frequency of inspections or maintenance are expected as a result of the Jefferson-Martin Project, so noise impacts from inspection and maintenance would be minor to moderate.

Mitigation Measures

In order to mitigate for potential noise impacts, PG&E will implement noise reduction measures. Mandatory mitigation measures for noise impacts include:

- Install portable barriers to shield compressors and other small stationary equipment where necessary.
- Use of "quiet" equipment (i.e., equipment designed with noise-control elements).
- Route truck traffic away from noise-sensitive areas, where feasible.
- Install sound barriers for pile driving activity, where practicable (e.g., use an acoustic curtain or blanket around the point of impact).
- Limit pickup trucks and other small equipment to an idling time of 5 minutes, observe a common-sense approach to vehicle use, and encourage workers to shut off vehicle engines whenever possible. (Note: larger vehicles, such as large diesel vehicles, require extended warm-up times after startup. Some equipment will remain running when required for repetitive tasks or to power other equipment).

Other mitigation measures related to reducing impacts through public notification include:

- ***Mitigation Measure to Provide Construction Notification and Minimize Construction Disturbance:*** PG&E or its construction contractor shall provide advance notice, between two and four weeks prior to construction, by mail to all residents or property owners within 300 feet of the alignment. The announcement shall state specifically where and when construction will occur in the area. If construction delays of more than 7 days occur, an additional notice shall be made, either in person or by mail. Notices shall provide tips on reducing noise intrusion, for example, by closing windows facing the planned construction. PG&E shall also publish a notice of impending construction in local newspapers, stating when and where construction will occur. Prior to construction, copies of all notices shall be submitted to the CPUC.

  PG&E shall construct during the night in areas where a local jurisdiction requests such timing to reduce construction disruption, if it can be demonstrated that significant noise impacts would not occur. Whether requested by either PG&E or the local jurisdiction, PG&E shall provide written evidence of local jurisdiction approval to the CPUC prior to the start of any night work. PG&E shall also provide analysis of noise impacts and proposed mitigation measures for any residents or other sensitive land uses that would be affected by nighttime construction.

- ***Mitigation Measure to Provide Public Liaison Person and Toll-Free Information Hotline:*** PG&E shall identify and provide a public liaison person before and during construction to respond to concerns of neighboring residents about noise, dust, and other construction disturbance. Procedures for reaching the public liaison officer via telephone or in person shall be included in notices distributed to the public in accordance with the mitigation measure described above. PG&E shall also establish a toll-free telephone number for receiving questions or complaints during construction and shall develop procedures for responding to callers. Procedures shall be submitted to the CPUC for review and approval prior to construction.

3.14.3.2 Alternative 1 Cumulative Impacts

Future and proposed construction projects in close proximity to the Proposed Project could have cumulative noise impacts within the Cumulative Project Area when conducted at the same time. The potential for the Proposed Project to contribute to the collective effect on noise levels, when considered with other projects in the area, would mainly occur during construction. Aside from occasional maintenance noise, there are no permanent noise sources anticipated of a detectable level. There is the possibility of several projects, mainly roadway improvements and residential development, occurring at the same time as construction of the Proposed Project. In the localized areas where project construction may occur simultaneously, noise generated from the projects would have a cumulative impact on sensitive receptors, since they could be exposed to longer periods of construction noise as a result of these projects. Similarly, the potential construction of townhouses across from the proposed transition site could create

cumulative construction impacts on nearby residential receptors. Construction of the cumulative projects could further exacerbate the short-term moderate noise and vibration impacts associated with construction of the Proposed Project. However, there is a considerable buffer between the nearest residences and potential construction sites. Furthermore, mitigation measures would be implemented to minimize effects, and other cumulative projects would need to comply with local noise ordinances. Therefore, when considered with the impacts from other actions, the effects are not collectively significant.

3.14.3.3 Alternative 1 Conclusion

Noise related to construction and operation of the transmission line would have a local, short to long-term, moderate, adverse effect on people and wildlife. Construction related impacts would be short-term, but corona noise and maintenance activities would last the lifetime of the project. Effects to the natural sound environment would be readily detectable in some instances and would be of consequence to visitor experience, biological resources, and adjacent communities. With implementation of the mitigation measures, short-term noise would be reduced to a minimal to moderate level during construction. No substantial impacts from the operation of the Jefferson-Martin Project have been identified, so mitigation measures for project operations are not proposed.

Because there would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park's establishing legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or value related to noise.

3.14.3.4 Alternative 2: No Action Alternative

The existing 60 kV transmission line and associated structures require inspection and maintenance. Routine inspection and maintenance of the transmission lines would be accomplished by using either ground access or an occasional helicopter fly-over. Noise from a helicopter could affect people recreating in the San Francisco Peninsula Watershed or those in communities adjacent to the Watershed. Ground inspections and maintenance have negligible to minor impacts, depending on the location of the line being inspected, how the site is accessed, and when inspections and maintenance are being conducted. No substantial impacts from the operation of the Jefferson-Martin Project have been identified; therefore measures to minimize noise impacts are not proposed.

3.14.3.5 Alternative 2 Cumulative Impacts

The cumulative impacts of the No Action Alternative would be considerably less than those of Alternative 1. A majority of the noise impacts, particularly those of greater intensity, associated with the Jefferson-Martin project are construction related. There is

no proposed construction associated with Alternative 2. Impacts from on-going inspection and maintenance activities are individually minor and insignificant. When considered with noise impacts from other actions in the Cumulative Project Area, the effects are not collectively significant.

3.14.3.6 Alternative 2 Conclusion

Noise impacts associated with the No Action Alternative are minimal and are related to inspection and maintenance activities. They are typically local. However, use of a helicopter to inspect lines could result in regional noise impacts, as it could affect surrounding parklands and communities. Impacts would be long-term (lasting the life of the project) and negative, but would occur infrequently and for short periods of time. Noise related impacts would be negligible to minor since some would not be of any measurable or perceptible consequence to visitor experience or to biological resources and some would be localized and of little consequence.

Because there would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park's establishing legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or value related to noise.

3.15 Transportation and Traffic

This chapter examines how the Proposed Project would affect transportation and traffic systems. Bicycle and pedestrian pathways are discussed in Section 3.12, Recreational Experience.

3.15.1 Affected Environment

The corridor of the Proposed Project roughly parallels Interstate 280 (I-280) and Skyline Boulevard (State Route 35 or SR 35), between Trousdale Avenue and Glenview Drive south of San Bruno Avenue. Table 11 provides information on these two roadways.

I-280 is designated as a scenic corridor by Caltrans and serves as a major commuter route between the peninsula and South Bay. Along with US Highway 101 (US 101), I-280 is a major north-south corridor on the peninsula. The freeway provides connections to other major state and local routes as well as bridges. The peak directions of travel along I-280 are southbound during the morning peak period and northbound during the evening peak period. Average daily traffic volume in 2002 on I-280 in the project area averaged from 111,000 to 116,000 trips. The Proposed Project corridor does not require crossing of I-280, though there will be minor re-work of two existing 60 kV taps and one existing distribution tap.

SR 35 is a two-lane arterial roadway that originates at Highway 101 in San Francisco, merges with I-280 in San Bruno, and diverges at the Bunker Hill Drive exit before extending south to Los Gatos. This route is designated as a scenic corridor by Caltrans. Regionally, the route serves as a bypass of I-280 after the Bunker Hill exit for travelers heading south from San Mateo to San Jose. The daily traffic volume measured in 2002 along SR 35 in the project area was 15,700 trips. The overhead segment includes one overhead crossing of SR 35, south of San Bruno Avenue at the Glenview Drive transition pole.

Table 11: Summary of Roadway Characteristics

Roadway	Jurisdiction	Classification	Lanes	Year	Traffic Volumes		Transmission Line Orientation
					Daily	Peak Hour	
Interstate 280	Caltrans	Freeway	8 to 10	2002	111,000	11,700	No overhead crossing, existing taps to be modified
SR 35 (Skyline Blvd)	Caltrans	Arterial	2	2002	15,700	1,650	One overhead crossing

(Sources: CPUC, 2002; Caltrans, 2003 in CPUC 2003)

3.15.2 Applicable Regulations, Plans, and Standards

Construction of the Proposed Project could potentially affect transportation rights-of-way (ROWs), access, traffic flow, and parking on nearby public streets. Therefore, PG&E or its designated construction contractor will need to obtain encroachment permits or similar legal agreements from the public agencies responsible for each affected roadway or other transportation ROW, including Caltrans, local agencies, and the SFPUC. Such permits would be needed for ROWs crossed by the transmission line as well as for areas where transmission line construction activities would require the use of public rights-of-way for access. The Proposed Project and support structures will not encroach upon air space.

3.15.3 Environmental Consequences

3.15.3.1 Alternative 1: Proposed Project and Agreement

The Proposed Project is only likely to affect roadways during the construction phase. Transportation and traffic will not be impacted during operation of the line because there is typically only a minimal amount of surface activity required to operate a transmission line. Consequently, this portion of the transportation analysis is devoted to the potential environmental consequences during the construction phase.

Construction Overview
Construction of the overhead portion of the Proposed Project would include preparation of access roads, installation of the new supporting structure foundations, removal of

existing facilities, erection of new support structures, stringing of the new conductor, and cleanup. One tower site, 11/72, would require establishment of a cross-country access road or reestablishment of an existing road that has been out of service). According to recent PG&E design plans, the majority of the pole sites are accessible from existing access roads, although a regraded access road may be required between Structures 11/71 and 11/72, in order to provide access to Structure 11/72. This will include re-establishing and upgrading an existing gas pipeline maintenance road.

Motorized graders and crawler tractors may need to be hauled to the site for access road establishment. It should be noted that all existing access roads that would be used by the Overhead Route are owned by the SFPUC with restricted access to the general public.

For installation of new pole foundations, several haul trips would be required to deliver construction equipment (e.g., auger, backhoes) and materials (e.g., reinforcing steel, concrete, reinforced steel cages) to each of the proposed support structure sites. In addition, excavated soils would likely need to be hauled off site.

Before work associated with dismantling of the existing line would begin, temporary crossing guard structures would be installed at all road crossings and any other locations where the existing conductors could potentially come in contact with vehicular traffic during removal. Tubular steel poles would be delivered to the site in two or more sections via ground transportation. Before the new conductor would be installed, temporary crossing guard structures would be set up at all road crossings.

Impact Analysis and Mitigation Measures
Installation of the Proposed Project would potentially result in adverse impacts to transportation and traffic. In order to minimize these impacts, compensatory mitigation measures would be applied to the Proposed Project. Impacts and associated mitigation measures are discussed below.

Impacts to Aviation
With regard to aviation, potential effects could occur during both construction and operation of a transmission line project because these impacts are caused by any physical impediments to the navigable airspace. According to the guidelines of the FAA, construction of the Proposed Project could potentially have a substantial impact on aviation activities if a structure, crane, or wire were to extend more than 200 feet above the ground or if an object associated with the transmission line penetrates the protected airspace extending outward and upward from a public or military airport runway or a helipad. The Proposed Project would not be located within the airspace of a public or military airport runway or helipad. Moreover, because the maximum height of a crane used in construction would be approximately 175 feet, and the maximum height of a transmission structure would be about 150 feet, project components would not extend into navigable airspace. Therefore, there would be no aviation impacts associated with the Proposed Project.

Temporary Road and Lane Closures (Impact T-1 in FEIR)
It would be necessary to halt through traffic during stringing operations over SR 35 at the Glenview Drive transition pole. In addition, delivery of large and heavy pieces of material via truck could require temporary street closures of a few minutes and would require issuance of a permit from the applicable agency. Such closures could increase traffic levels and constrain circulation in the area, resulting in potential impacts. PG&E has committed to measures incorporated into the Jefferson-Martin Project to reduce impacts associated with temporary road closures. With inclusion of the mitigation measures summarized below, the impacts related to traffic in this area would be minor.

> ***Mitigation Measure to Prepare a Transportation Management Plan****:* PG&E will submit a Traffic Management Plan (TMP) to affected agencies, including Caltrans, having jurisdiction over the public roads that would be affected by construction activities as part of the required traffic encroachment permits. The TMP must define the locations of all roads that would need to be temporarily closed due to construction activities such as hauling of oversized loads by truck, and due to conductor stringing activities. The TMP will define the use of flag persons, warning signs, lights, barricades, cones, etc. according to standard guidelines outlined in the Caltrans Traffic Manual, the Standard Specifications for Public Works Construction, and the Work Area Traffic Control Handbook (WATCH).
>
> ***Mitigation Measure for Restricting Lane Closures:*** PG&E will restrict all necessary lane closures or obstructions on I-280 and SR 35 to off-peak periods to mitigate traffic congestion and delays. Lane closures must not occur between 6:00 and 9:30 a.m. and between 3:30 and 6:30 p.m., or as directed in writing by Caltrans in the encroachment permit.

Traffic Generated by Construction (Impact T-2 in FEIR)
Construction of the Proposed Project would generate additional traffic on the regional roadways. Construction worker commute trips, project equipment deliveries, and hauling materials such as support poles, concrete, fill, and excavation spoils would increase existing traffic volumes in the project area. The FEIR analysis of construction-related traffic volumes indicated that project traffic could create short-term delays due to construction-related vehicle activity but would be less than 1% of traffic volumes on study area roadways. Impacts related to project construction traffic would be temporary and would be considered minor. No mitigation measures were required because of the minor level of impact.

Physical Impacts to Road Rights-of-Way and Sidewalks (Impact T-3 in FEIR)
As part of the construction of the Proposed Project, PG&E does not expect to cause any physical damage to roads or sidewalks beyond that planned for excavation operations along the short length of the watershed access road from Trousdale Avenue to the first structure, Structure 11/70. However, there is the potential for unexpected damage by vehicles and equipment to occur. Impacts could be moderate, but will be minor to negligible following the compensatory mitigation described below.

> ***Mitigation Measure to Repair Damaged Roads:*** If damage to roads occurs as part of construction of the Overhead Route, PG&E will coordinate repairs with the SFPUC to ensure that impacts are adequately repaired. Roads disturbed by construction activities or construction vehicles will be properly restored to ensure long-term protection of road surfaces. Care will be taken to prevent damage to roadside drainage structures. Roadside drainage structures and road drainage features (e.g., rolling dips) will be protected by regrading and reconstructing roads to drain properly. The FEIR further required that these measures be incorporated into an access agreement/easement with Caltrans prior to construction.

Construction Interference with Emergency Response (Impact T-6 in FEIR)
Construction activities could potentially interfere with emergency response by ambulance, fire, paramedic, and police vehicles. The loss of a lane and the resulting increase in congestion could lengthen the response time required for emergency vehicles passing through the construction zone. Moreover, there is a possibility that emergency services may be needed at a location where access is temporarily blocked by the construction zone. PG&E has committed to reduce potential impacts associated with emergency response through implementation of the following measure.

> ***Mitigation Measure to Ensure Emergency Response Access:*** *PG*&E shall coordinate in advance with emergency service providers to avoid restricting movements of emergency vehicles. Police departments, fire departments, ambulance services, and paramedic services shall be notified in advance by PG&E of the proposed locations, nature, timing, and duration of any construction activities and advised of any access restrictions that could impact their effectiveness. At locations where access to nearby property is blocked, provision shall be ready at all times to accommodate emergency vehicles, such as short detours and alternate routes in conjunction with local agencies. Traffic Control Plans shall include details regarding emergency services coordination and procedures, and copies shall be provided to all relevant service providers. Documentation of coordination with service providers shall be provided to the CPUC prior to the start of construction.

Interference with SFPUC Maintenance Activities (Impact L-5 in FEIR)
PG&E would place cable-pulling sites adjacent to Tower 13/83 in a maintenance access road used by the San Francisco Public Utilities Commission. The staging and use of equipment on these sites could disrupt the SFPUC's use of its access roads and interfere with maintenance activities on its property. In addition, support towers within the

Peninsula Watershed may also interfere with use of maintenance roads during construction of the project. Towers that could intrude into Watershed maintenance roads include Towers 11/75, 12/79, 12/80, 12/81, 13/85, and possibly others. Interference with SFPUC maintenance activities during construction would likely be minor with implementation of the following measure.

> ***Mitigation Measure to ensure coordination with SFPUC within Peninsula Watershed.*** PG&E shall coordinate the locations of all support towers and cable-pulling sites within the Peninsula Watershed with the San Francisco Public Utilities Commission to ensure that construction and operation of the overhead portion of the Proposed Project does not interfere with SFPUC maintenance and operations activities. This coordination shall be documented to the CPUC in a letter provided at least 60 days before the start of construction.

3.15.3.2 Alternative 1 Cumulative Impacts

With implementation of proposed mitigation, Alternative 1 will not result in any major impacts to transportation or traffic. Although other projects may be scheduled to take place in the same timeframe as the project (see Section 3.4), the incremental contribution of PG&E vehicles using the same roadways to access substation and tower sites would not constitute a considerable contribution to cumulative transportation or traffic impacts. In the event that the Proposed Project is approved and that PG&E project construction activities overlap with other projects with similar impacts, there would be a need for coordination between the conflicting actions and the appropriate agencies to ensure that safe vehicle, pedestrian, and bicycle access and circulation is maintained. There are no long-term transportation or traffic impacts associated with operation of the Proposed Project. When considered with transportation and traffic impacts from other actions, the effects are not collectively significant.

3.15.3.3 Alternative 1 Conclusion

Alternative 1 would have local, short-term, moderate, adverse effects on transportation and traffic. Transportation and traffic effects would only occur during construction and would be temporary in nature. The installation of the transmission line across the roadway would reduce the number of travel lanes, or halt traffic, and could result in a disruption to traffic flow or an increase in traffic congestion. Although moderate effects may occur due to temporary road and lane closures, a Traffic Management Plan will be developed and submitted to agencies with jurisdiction over public roads.

Because there would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park's establishing legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or value related to transportation and traffic.

3.15.3.4 Alternative 2: No Action Alternative

The No Action Alternative will not have any impacts on transportation and traffic.

3.15.3.5 Alternative 2 Cumulative Impacts

The No Action Alternative would not contribute to cumulative impacts to transportation and traffic.

3.15.3.6 Alternative 2 Conclusion

The No Action Alternative will not have any adverse or beneficial effects on transportation or traffic.

Because there would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park's establishing legislation, 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or value related to transportation and traffic.

Chapter 4: CONSULTATION AND COORDINATION

4.1 Scoping and Public Involvement

Scoping is an early and open process to determine the breadth of environmental issues and alternatives to be addressed in an environmental assessment. Through the scoping process, the NPS sought to obtain input from staff, the public, including the City of Pacifica, government and regulatory agencies, and environmental organizations. The following is a summary of the scoping activities.

The public scoping process for this project was initiated at a GGNRA Public Meeting on September 21, 2004, at the Sanchez Concert Hall in Pacifica, California. Notification for this meeting was sent out to over 1,200 people, agencies, and organizations on the GGNRA mailing list. Nancy Hornor, Chief of the GGNRA Planning Division, presented the project to approximately 65 members of the public. The public was then given the opportunity to comment. Seven people provided oral comments. Of the seven people who commented all were supportive of the NPS's acquisition of the "Sweeney Ridge Gateway Parcel" on Sneath Lane as compensation for impacts in the watershed. Five of the seven specifically mentioned that additional negotiations may be needed to increase funds to cover all of the costs of the proposed mitigation and especially to ensure that PG&E purchases the property from the City of Pacifica at fair market value. Individuals who commented also addressed reasons to preserve the Gateway property which included water quality, watershed protection, existence of a sag pond, wildlife habitat, wildlife travel corridor, value to listed species, and linkage to Sweeney Ridge, the Bay Ridge Trail, and the Sawyer Trail. All comments were recorded and transcribed.

A scoping letter for this project was mailed on October 1, 2004 to government agencies, elected officials, resource organizations, and former GGNRA advisory commissioners to solicit early input into the scope and range of issues to be analyzed in the document. A scoping notice was also electronically mailed on that same date to approximately 85 individuals that were on a California Public Utilities Commission Service List for PG&E (http://www.cpuc.ca.gov/published/service_lists/A0209043_49167.htm). Comments were solicited during external scoping until October 15, 2004. However, GGNRA received and considered comments that were received after that date. The California Department of Fish and Game forwarded two letters that they had previously sent to the California Public Utilities Commission for the *Draft Environmental Impact Report, Jefferson-Martin 230 kV Transmission Line Project.* One scoping letter from the Pacificans for Sustainable Development, one from the Bay Area Ridge Trail Council and three from private citizens were also received; each letter expressed support of the Sweeney Ridge Gateway Parcel as mitigation and the need to negotiate further with PG&E to ensure that PG&E can adequately fund all of the described mitigation measures. The Bay Area Ridge Trail Council recommended that any additional funds be restricted to the NPS Trails Forever Program for San Mateo County trail maintenance and

management projects. All public comments have been considered by the National Park Service.

Internal scoping was conducted by the staff of the Golden Gate National Recreation Area. Resource specialists were contacted to determine what types of impacts the project may have. On December 1, 2004, the Proposed Action was evaluated under the GGNRA's Project Review process. This interdisciplinary process reviewed and defined the purpose and need, identified potential actions to address the need, determined issues and impact topics to be addressed, and confirmed that the project would require an environmental assessment to determine whether the impact of the proposed action or no action alternative would be significant.

4.2 Regulatory Compliance

Compliance with major federal laws and associated state regulations is summarized below.

National Environmental Policy Act (NEPA) of 1970. PL 91-190, 83 Stat. 852, 42 USC §4341 et seq.

This EA provides disclosure of the planning and potential environmental consequences of the proposed action and No Action Alternative, as required by NEPA. The EA will be made available for public review and comment for 30 days. Agency and public comments will then be considered and a determination will be made whether to further assess alternatives and impacts or to prepare a Finding of No Significant Impact which will respond individually or through summaries to all substantive comments.

U.S. Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act (33U.S.C. 1344), the U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged or fill material to Waters of the U.S., including wetlands. Waters of the U.S. that would be affected by the Proposed Project within the NPS Easement are located along the shoreline of San Andreas Lake. Bank stabilization will be required. There are other Waters of the U.S. that would be affected by the CPUC-approved project; however, these waters are located outside of NPS Easements.

A Pre-Construction Notification was provided to the USACE on December 17th, 2004, for concurrence that the project meets the requirements of Nationwide Permit 39 (Residential, Commercial and Institutional Developments), Nationwide Permit 13 (Bank Stabilization) and Nationwide Permit 33 (Temporary Construction, Access, and Dewatering). The nationwide permit program, established under Section 404(e) of the Clean Water Act at the direction of Congress is a streamlined permitting program for projects with minimal adverse environmental effects on both an individual and a cumulative basis.

U.S. Fish and Wildlife Service

Under Section 7 of the Federal Endangered Species Act as amended, PL 93-205, 87 Stat. 884, 16 USC §1531 et seq., federal agencies are required to consult with the U.S. Fish

and Wildlife Service (FWS) if their actions, including permit approvals, could adversely affect an endangered or threatened species, or its critical habitat. Section 7 consultation would result in the issuance of a biological opinion. The FWS may issue an incidental take statement in the biological opinion allowing take of a species that is incidental to another authorized activity, provided the action will not jeopardize the continued existence of the species.

For the CPUC-approved project, section 7 consultation is occurring under the USACE. The USACE has permitting authority for this project as described above. The USACE sent biological information and a consultation request to FWS on December 20, 2004. The FWS requested additional information in the form of a Biological Assessment on February 11, 2005; a Biological Assessment was subsequently provided to the FWS on February 22, 2005 (FWS, 2005c). The FWS is required to complete a biological opinion for the project within 135 days of receipt of a complete and comprehensive Biological Assessment that would allow them to evaluate potential impacts to listed species and authorize incidental take.

California Department of Fish and Game

Sections 1600 through 1616 of the California Fish and Game Code require that a Lake and Streambed Alteration Application be submitted to the California Department of Fish and Game (CDFG) for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream or lake." CDFG reviews the proposed actions and, if necessary, submits to the Applicant (PG&E) a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFG and the Applicant is the Lake and Streambed Alteration Agreement. A Lake and Streambed Alteration Notification Application was submitted to CDFG on February 25, 2005.

In addition, Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. The California Endangered Species Act allows for take incidental to otherwise lawful development projects. Consultation with CDFG is required to ensure that any action that is undertaken is not likely to jeopardize the continued existence of any state-listed endangered or threatened species, or result in destruction or adverse medication of essential habitat. A copy of the FWS Biological Assessment and a request to initiate consultation was provided to CDFG on February 28, 2005.

Advisory Council on Historic Preservation and California State Historic Preservation Officer

The 1966 National Historic Preservation Act of 1966, as amended PL 89-665, 80 Stat. 915, 16 USC §470 et seq. and 36 CFR 18, 60, 61, 63, 68, 79, 800, requires federal agencies to consult with the Advisory Council on Historic Preservation (ACHP) and the State Historic Preservation Officer (SHPO) regarding undertakings that may affect properties listed in or eligible for listing in the National Register of Historic Places. The CPUC consulted with the SHPO in the development of the Final Environmental Impact

Report (FEIR) (CPUC, 2003). The few historic properties or cultural resources in the project vicinity have been avoided through project routing and design; therefore, additional consultation is not required. Should unknown resources be discovered during construction, work will be temporarily halted while the resource is evaluated and SHPO consulted as needed.

On December 8, 2004, the Jefferson-Martin Transmission Project was presented at the GGNRA Preservation Assessment (5X) meeting composed of members of the GGNRA Cultural Resources Division. GGNRA cultural resource specialists concurred that the Proposed Project did not require certification for compliance with the National Historic Preservation Act. There are no known cultural resources within the 3.3-mile overhead segment through GGNRA lands.

Regional Water Quality Control Board

Under Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act, applicants for any activity which may result in a discharge to a water body must obtain certification that the proposed activity will comply with state water quality standards. A permit application for Water Quality Certification was submitted to the Regional Water Quality Control Board (RWQCB) on February 28, 2005.
In addition, the RWQCB administers the National Pollutant Discharge Elimination System (NPDES) permit program, which is designed to control water pollution by regulating point sources that discharge pollutants into Waters of the U.S. A Notice of Intent for work under the General Construction Permit was submitted to the RWQCB on September 17, 2004. The RWQCB provided written confirmation of receipt and issued the Project the following identification number: 241C330002. As required by the General Permit, a Stormwater Pollution Prevention Plan has been prepared for the Project.

4.3 Review of this Environmental Assessment

Copies of the Jefferson-Martin 230 kV Transmission Project EA will be distributed to the general public, local congressional representatives, state and local elected officials, federal agencies, resource organizations, and public libraries. There will be a 30-day public comment period on the EA. The EA will be posted online at:

http://parkplanning.nps.gov

Comments may be electronically provided through the website listed above. Alternatively, written comments regarding this document may be directed to:

Mail: Superintendent, Golden Gate National Recreation Area
Fort Mason, Building 201
San Francisco, CA 94123-0022
ATTN: Karen Harvey, PG&E Jefferson-Martin 230 kV Transmission Project

Fax: (415) 561-4854

To request a printed copy of this environmental assessment, please contact:

Karen Harvey, Environmental Protection Specialist
Phone: (415) 561-4488
Karen_Harvey@nps.gov

You may view a copy of the EA during the thirty-day public review period at the GGNRA information desk at Fort Mason (Fort Mason Building 201, San Francisco, California, 94123) or at any of the public libraries listed under Section 4.5 below.

4.4 List of Preparers

The following individuals worked on the preparation of the EA:

Nancy Hornor
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Karen Harvey
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B.A., Environmental Studies
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4.5 List of Recipients

The following is a list of agencies and organizations that will have received a notice of availability or a copy of the environmental assessment.

Federal Agencies
Federal Emergency Management Agency
U.S. Army Corps of Engineers
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service

Elected Officials
U.S. Senator Barbara Boxer
U.S. Senator Dianne Feinstein

Congressperson Nancy Pelosi, District 8
Congressperson Tom Lantos, District 12
Congressperson Anna Eshoo, District 14
California State Senator Jackie Speier, District 8
California State Assembly Member Leland Yee, Ph.D., District 12
California State Assembly Member Mark Leno, District 13
California State Assembly Member Gene Mullin, District 19
San Mateo County Board of Supervisors, Attn: Rich Gordon
San Francisco County Board of Supervisors, Attn: Aaron Peskin
Mayor Gavin Newsom, City and County of San Francisco Office of the Mayor
Mayor Julie Lancelle, City of Pacifica, Office of the Mayor
City of Pacifica City Council, Attn: James Vreeland

State Agencies
State Historic Preservation Office
State of California Department of Fish and Game
State of California Department of Parks and Recreation
State of California Office of Planning and Resources State Clearinghouse

Regional, County, and Municipal Agencies
City of San Bruno
City of San Francisco
City of Millbrae
Pacifica Planning Department
San Francisco Bay Regional Water Quality Control Board
San Francisco Planning Department
San Francisco Public Utilities Commission
San Mateo County Environmental Services Agency
San Mateo County Parks and Recreation
San Mateo County Planning and Building Division

Organizations
Bay Area Ridge Trail
California Native Plant Society, Yerba Buena Chapter
Committee for Green Foothills
Friends of Sweeney Ridge
Golden Gate Audubon Society
Mid-Peninsula Regional Open Space District
Pacifica GGNRA Committee
Pacifica Land Trust
Pacificans for Sustainable Development
Peninsula Open Space Trust
People for a Golden Gate National Recreation Area
San Francisco Planning and Urban Research Association
Sequoia Audubon Society
Sierra Club, Loma Prieta Chapter

Sierra Club, San Francisco Bay Chapter

A complete list of names, including non-governmental organizations, non-profit organizations, and interested citizens on the NPS mailing list for this project, is in the project file and is available from the issuing office. A notice of availability will be mailed to all individuals that have indicated interest in GGNRA planning and management activities.

Libraries

The following is a list of libraries where the public can access this EA and review the document onsite. The San Bruno Public Library and the Burlingame Library also contain copies of the FEIR that can be reviewed onsite.

S.F. Civic Center Public Library
100 Larkin Street
San Francisco, CA 94102
(415) 557-4400

Pacifica Library
104 Hilton Way
Pacifica, CA 94044
(650) 355-5196

Millbrae Library
1 Library Avenue
Millbrae, CA 94030
(650) 697-7607

San Bruno Public Library
701 Angus Avenue West
San Bruno, CA 94066
(650) 616-7078

Burlingame Library
480 Primrose Road
Burlingame, CA 94010
(650) 558-7400

REFERENCES

Avian Power Line Interaction Committee (APLIC). 1996. *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996.*

California Public Utilities Commission (CPUC). 2004. *Opinion Granting a Certificate of Public Convenience and Necessity.* 04-08-046: August 19.

California Public Utilities Commission (CPUC). 2003. *Jefferson-Martin 230kV Transmission Project: Final Environmental Impact Report.* Vol. 1-3. Prepared by Aspen Environmental Group.

California Public Utilities Commission (CPUC). 2002. *PG&E Proposed Jefferson-Martin 230kV Transmission Project: Application and Proponent's Environmental Assessment.* September. Prepared by Aspen Environmental Group.

City and County of San Francisco. 1969. *Grant of scenic and Recreation Easement Between the Department of the Interior and the City and County of San Francisco for the Peninsula Watershed.* May 2.

Golden Gate National Recreation Area (GGNRA). 2003. *Wireless Telecommunications Facilities (WTF) Implementation Guideline Administrative Draft.* June. Prepared by Bay Area Economics.

Hertzberg, Sam. 2005. Personal communication between Sam Hertzberg of San Mateo County Park and Recreation Department and Karen Harvey of the National Park Service. April 1.

National Park Service. 2001a. *Director's Order 12: Conservation Planning, Environmental Impact Analysis, and Decision-Making.* Washington DC.

National Park Service. 2001b. *National Park Service Management Policies.* Washington DC.

National Park Service. 1990. *The Top of the Peninsula; A History of Sweeney Ridge and the San Francisco Watershed lands, San Mateo County, California.* Prepared by Marianne Babal.

National Park Service. 1980. *Golden Gate National Recreation Area and Point Reyes National Seashore, General Management Plan/Environmental Assessment.* Washington, DC.

Pacific Gas and Electric Company (PG&E). 2004. *Vegetation Management Plan: Jefferson-Martin 230kV Transmission Line Project, Segment 2 (Overhead).* December. Prepared by CH2MHILL.

Regional Water Quality Control Board, San Francisco Bay (RWQCB). 2003. *Basin Plan.*

San Francisco Public Utilities Commission (SFPUC). 2002. *Final Peninsula Watershed Management Plan.* Spring. Prepared by EDAW.

San Mateo County. 2004. *Erosion Control and Revegetation Plan: Jefferson-Martin 230kV Transmission line Project All Segments.* November. Prepared by CH2MHILL.

San Mateo County Parks and Recreation Commission. 2001. *San Mateo County 2001 Trails Plan: San Mateo County California.*

United States Army Corps of Engineers (USACE). 2004. *Preconstruction Notification Package Nationwide Permit 39 (Residential, Commercial and Institutional Developments), Nationwide Permit 13 (Bank Stabilization) and Nationwide Permit 33 (Temporary Construction, Access, and Dewatering): Jefferson-Martin 230kV Transmission Line Project.* December. Prepared by CH2MHILL.

United States Department of the Interior. 1969. *Department of the Interior Grant of Scenic and Recreation Easement* (now administered by the Golden Gate National Recreation Area). January 15

United States Environmental Protection Agency (USEPA). 2005. *Environmental Justice.* [online]; http://www.epa.gov/compliance/environmentaljustice/. Accessed on January 5, 2005.

United States Fish and Wildlife Service (FWS). 2005a. *Fact Sheet on the 1985 Recovery Plan for the San Francisco Garter Snake (Thamnophis sirtalis tetrataenia).* Sacramento Fish and Wildlife Office [online]: http://sacramento.fws.gov/es/animal_spp_acct/sf_garter_snake.htm. Accessed on February 9, 2005.

United States Fish and Wildlife Service (FWS). 2005b. *Fact Sheet on the California Red-legged Frog (Rana aurora draytonii).* Sacramento Fish and Wildlife Office [online]: http://sacramento.fws.gov/es/animal_spp_acct/red_legged_frog.htm. Accessed on February 9, 2005.

United States Fish and Wildlife Service (FWS). 2005c. *Biological Assessment: Jefferson-Martin 230kV Transmission Line Project.* February. Prepared by CH2MHILL.

United States Fish and Wildlife Service (FWS). 2004. *Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for the California Red-legged Frog (Rana aurora draytonii).* Federal Register. Vol. 69 (71): 19620-19642.

List of Acronyms in EA

APLIC	Avian Power Line Interaction Committee
APM	Applicant Proposed Measures
BAAQMD	Bay Area Air Quality Management District
BMP	Best Management Practice
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CCSF	City and County of San Francisco
CDFG	California Department of Fish and Game
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CPUC	California Public Utilities Commission
CWA	Clean Water Act
RWQCB	Regional Water Quality Control Board
DEIR	Draft Environmental Impact Report
DOI	Department of the Interior
EA	Environmental Assessment
EMF	Electric and Magnetic Fields
EPA	U.S. Environmental Protection Agency
FR	Federal Register
FEIR	Final Environmental Impact Report
FWS	US Fish and Wildlife Service
GGNRA	Golden Gate National Recreation Area
GMP	General Management Plan
kV	kilovolt
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
PG&E	Pacific Gas & Electric Company
ROW	Right-of-Way
SFGS	San Francisco Garter Snake
SFPUC	San Francisco Public Utilities Commission
SHPO	State Historic Preservation Officer
SR	State Route
SWPPP	Storm Water Pollution Prevention Plan
USACE	US Army Corps of Engineers
USGS	United States Geologic Survey
WQV	Water Quality Vulnerability Zones
WTF	Wireless Telecommunication Facilities

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APPENDIX A: NPS Criteria for Selection of Mitigation Sites

PG&E Jefferson-Martin 230 kV Transmission Line Project Settlement Agreement

I. Mitigation for expansion of PG&E's transmission line easement will be accomplished through land acquisition and measures related to protection/enhancement of natural, scenic, and/or recreational values. Land acquisition using up to $1.0 million of the mitigation funds will meet one of the following criteria listed in priority order:

1. Priority 1: Lands acquired will be contiguous to the GGNRA and San Francisco Peninsula Watershed boundary and would mitigate the loss of natural, scenic and/or recreational values within NPS's easements that are affected by transmission line construction and the expansion of PG&E's right-of-way easement.

2. Priority 2: Lands acquired will be contiguous to the GGNRA boundary in San Mateo County and would mitigate the loss of natural, scenic, and/or recreational values within NPS's easements that are affected by transmission line construction and the expansion of PG&E's right-of-way easement.

3. Priority 3: Lands acquired will be within the GGNRA boundary in San Mateo County and would mitigate the loss of natural, scenic, and/or recreational values within NPS's easements that are affected by transmission line construction and the expansion of PG&E's right-of-way easement.

4. Priority 4: Lands acquired will be contiguous to or within the GGNRA boundary and would mitigate the loss of natural, scenic, and/or recreational values within NPS's easements that are affected by transmission line construction and the expansion of PG&E's right-of-way easement.

Acquisition of lands that meet the above criteria should be completed within a reasonable time following execution of the settlement, if possible, within one year.

If land acquisition can be accomplished for less than $1.0 million, the balance of the land acquisition funds will be used to enhance natural, scenic and/or recreational values on lands within the GGNRA boundary and within, adjacent to, or providing trail connections to the San Francisco Peninsula Watershed.

II. Mitigation for loss of natural, scenic, and/or recreational values ($500,000):

1. Priority 1: Enhancement of natural, scenic and/or recreational values on lands within the GGNRA boundary and also within the San Francisco Peninsula Watershed.

2. Priority 2: Enhancement of natural, scenic and/or recreational values on lands adjacent to the San Francisco Peninsula Watershed and also within the GGNRA boundary.

Examples of enhancement projects are improvements to trails and related facilities including trailheads, signs, and information; correction of erosion/drainage problems contributing to resource impacts; revegetation of disturbed areas; and habitat protection.