

**DRAFT**

**Environmental Impact Report**

State Clearinghouse Number: 2000042073

**EXECUTIVE SUMMARY**

**NORTHEAST SAN JOSE TRANSMISSION  
REINFORCEMENT PROJECT**

Prepared for:

**California Public Utilities Commission**

Prepared by:

**Aspen Environmental Group**

Application Number: 99-09-029

**June 2000**

**NORTHEAST SAN JOSE TRANSMISSION REINFORCEMENT PROJECT  
DRAFT ENVIRONMENTAL IMPACT REPORT**

---

---

**EXECUTIVE SUMMARY**

**TABLE OF CONTENTS**

	<u>Page</u>
<b>1. INTRODUCTION</b> .....	ES-1
<b>2. DRAFT EIR CONCLUSIONS</b> .....	ES-1
<b>3. DESCRIPTION OF PROPOSED PROJECT AND ALTERNATIVES</b> .....	ES-7
3.1 Proposed Project .....	ES-7
3.2 Alternatives .....	ES-7
<b>4. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES</b> .....	ES-9
4.1 Introduction .....	ES-9
4.2 Air Quality .....	ES-9
4.3 Biological Resources .....	ES-10
4.4 Cultural Resources .....	ES-11
4.5 Geology, Soils, and Paleontology .....	ES-12
4.6 Hydrology and Water Quality .....	ES-13
4.7 Land Use and Recreation .....	ES-14
4.8 Noise and Vibration .....	ES-16
4.9 Public Health, Safety and Nuisance .....	ES-17
4.10 Socioeconomics, Public Services, and Utilities .....	ES-18
4.11 Traffic and Transportation .....	ES-19
4.12 Visual Resources .....	ES-20
<b>5. COMPARISON OF ALTERNATIVES</b> .....	ES-22
5.1 Introduction .....	ES-22
5.2 Comparison Methodology .....	ES-22
5.3 Comparison of Alternatives .....	ES-23
5.3.1 230kV Transmission Line Alternatives .....	ES-23
5.3.2 Substation Comparison .....	ES-26
5.3.3 Trimble-Montague 115kV Upgrade Comparison .....	ES-26
5.3.4 No Project Alternative .....	ES-26
5.4 Environmentally Superior Alternative .....	ES-27
5.4.1 Summary of Conclusions .....	ES-27
5.4.2 Illustration of the Complete Environmentally Superior Project .....	ES-28
<b>6. MITIGATION MONITORING, COMPLIANCE, AND REPORTING</b> .....	ES-35
<b>7. IMPACT SUMMARY TABLE</b> .....	ES-35

**NORTHEAST SAN JOSE TRANSMISSION REINFORCEMENT PROJECT  
DRAFT ENVIRONMENTAL IMPACT REPORT**

---

---

**EXECUTIVE SUMMARY**

**TABLE OF CONTENTS**

		<u>Page</u>
<b>LIST OF TABLES</b>		
ES-1	Environmentally Superior Project Components . . . . .	ES-2
ES-2	Summary of Project Components . . . . .	ES-8
ES-3	Characteristics of Proposed Project and Alternative Segments . . . . .	ES-24
ES-4	Northern Route Comparison . . . . .	ES-29
ES-5	Central Route Comparison . . . . .	ES-30
ES-6	Complete 230kV Route Comparison . . . . .	ES-31
ES-7	Substation Comparison . . . . .	ES-32
ES-8	115kV Upgrade Comparison . . . . .	ES-33
ES-9	No Project Alternative Compared to Proposed Project and Environmentally Superior Alternative . . . . .	ES-34
ES-10	Impact Summary Table . . . . .	ES-36

**LIST OF FIGURES**

ES-1	Proposed Project and All Alternatives . . . . .	ES-3
ES-2	Environmentally Superior Project Components . . . . .	ES-5

# **EXECUTIVE SUMMARY**

---

## **1. INTRODUCTION**

This Draft Environmental Impact Report (EIR) has been prepared by the California Public Utilities Commission (CPUC) in accordance with the California Environmental Quality Act (CEQA) to inform the public and to meet the needs of local, State, and Federal permitting agencies to consider the Northeast San Jose Transmission Reinforcement Project proposed by Pacific Gas and Electric Company (PG&E Co., also referred to in this document as “the Applicant”). The proposed project is described briefly below, and in detail in Section B of this EIR. This EIR does not make a recommendation regarding the approval or denial of the project; it is purely informational in content.

This EIR evaluates and presents the environmental impacts that are expected to result from construction and operation of PG&E Co.’s proposed project, and provides mitigation measures which, if adopted by the CPUC or other responsible agencies, could avoid or minimize the environmental impacts identified. This EIR also identifies alternatives to the proposed project and evaluates the environmental impacts associated with those alternatives, in accordance with CEQA requirements.

This CEQA document reflects comments made by agencies and the public during the scoping and Notice of Preparation period (December 17, 1999 to January 22, 2000, and a subsequent period from April 17 to May 17, 2000). A Scoping Report was prepared to summarize the written and oral comments made during the scoping period; it is available on the project website at:

<http://www.cpuc.ca.gov/divisions/energy/environmental/info/aspen/nesanjo/nesanjo.htm>

Section 2 of this Executive Summary identifies the environmentally superior alternative, which is the conclusion of this Draft EIR. Section 3 presents a summary description of the project proposed by PG&E Co. and the alternatives evaluated in this EIR. Section 4 summarizes the impacts of the proposed project and alternatives within each of the 11 environmental issue areas included in this analysis. The comparison of alternatives that leads to the identification of the environmentally superior alternative is presented in Section 5. Section 6 describes the mitigation monitoring program that would be implemented upon project approval, and Section 7 presents the Impact Summary Table that lists all of the impacts and mitigation measures from the EIR.

## **2. DRAFT EIR CONCLUSIONS**

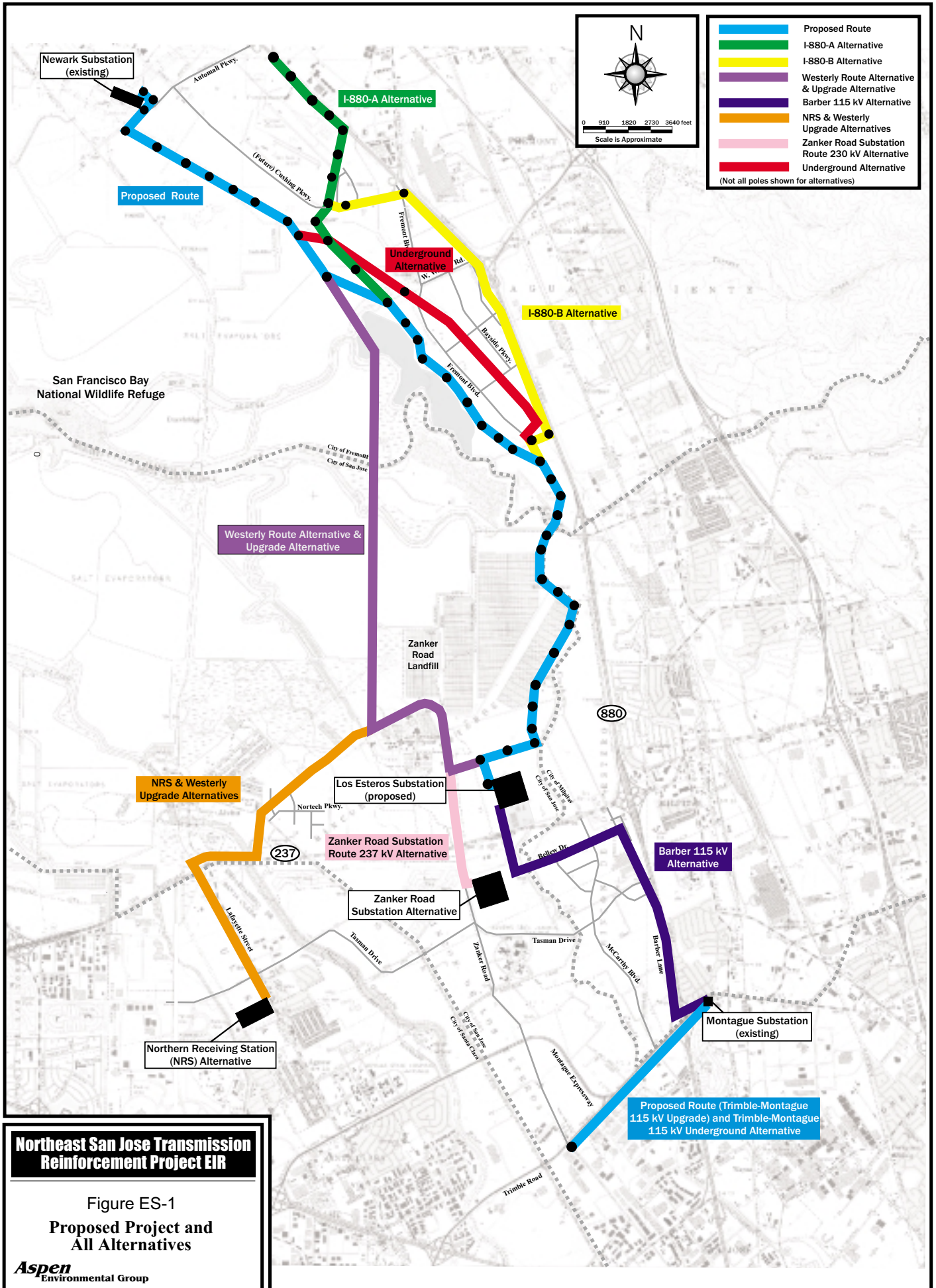
Figure ES-1 illustrates the location of the proposed 230kV transmission line, the proposed Los Esteros Substation, and the Trimble-Montague 115kV Upgrade. Alternatives to each of these project components are also shown on Figure ES-1. Table ES-1 summarizes the conclusions of this EIR with respect to the Environmentally Superior Alternative. Note that Table ES-10, at the end of the Executive Summary, summarizes all identified impacts of the proposed project and alternatives.

**Table ES-1 Environmentally Superior Project Components**

Project Component	Proposed Project/Alternatives	Environmentally Superior
230 kV Transmission Line	<ul style="list-style-type: none"> <li>• Proposed Route</li> <li>• I-880-A Alternative</li> <li>• I-880-B Alternative</li> <li>• Westerly Route Alternative</li> <li>• Westerly Upgrade Alternative</li> </ul>	Northern Route: I-880-A Alternative Central Route: I-880-B Alternative Southern Route: Proposed Route
230kV Substation	<ul style="list-style-type: none"> <li>• Proposed Los Esteros Substation</li> <li>• Zanker Road Alternative Substation</li> <li>• Northern Receiving Station Substation Alternative</li> </ul>	Proposed Los Esteros Substation
Trimble-Montague 115kV Upgrade	<ul style="list-style-type: none"> <li>• Proposed Trimble-Montague Upgrade</li> <li>• Underground Trimble-Montague Alternative</li> <li>• Barber Lane Alternative</li> </ul>	Proposed Trimble-Montague Upgrade

**A New Transmission System vs. No Project Alternative.** The proposed project would result in a range of construction and operational impacts, many of which can be reduced with implementation of mitigation. However, if the proposed project or an alternative is not constructed, PG&E Co. will most likely be forced to respond to growing demand by expanding its existing transmission and distribution system to the extent that is possible. Such system upgrades would likely include re-conductoring the 115kV transmission lines and installation of additional transformers at existing substations. The region would have to absorb the impacts of these upgrade projects (including construction on several existing 115kV lines through the San Francisco Bay National Wildlife Refuge), and PG&E Co. would also be forced to evaluate another alternative to the regional electric service problem and propose another solution to the CPUC through a subsequent application. This sequential action has the potential for greater impacts than implementation of the selected alternative. Therefore, despite the identified impacts of the proposed project and alternatives (summarized in Table ES-10 at the end of the Executive Summary), the No Project Alternative is not preferred.

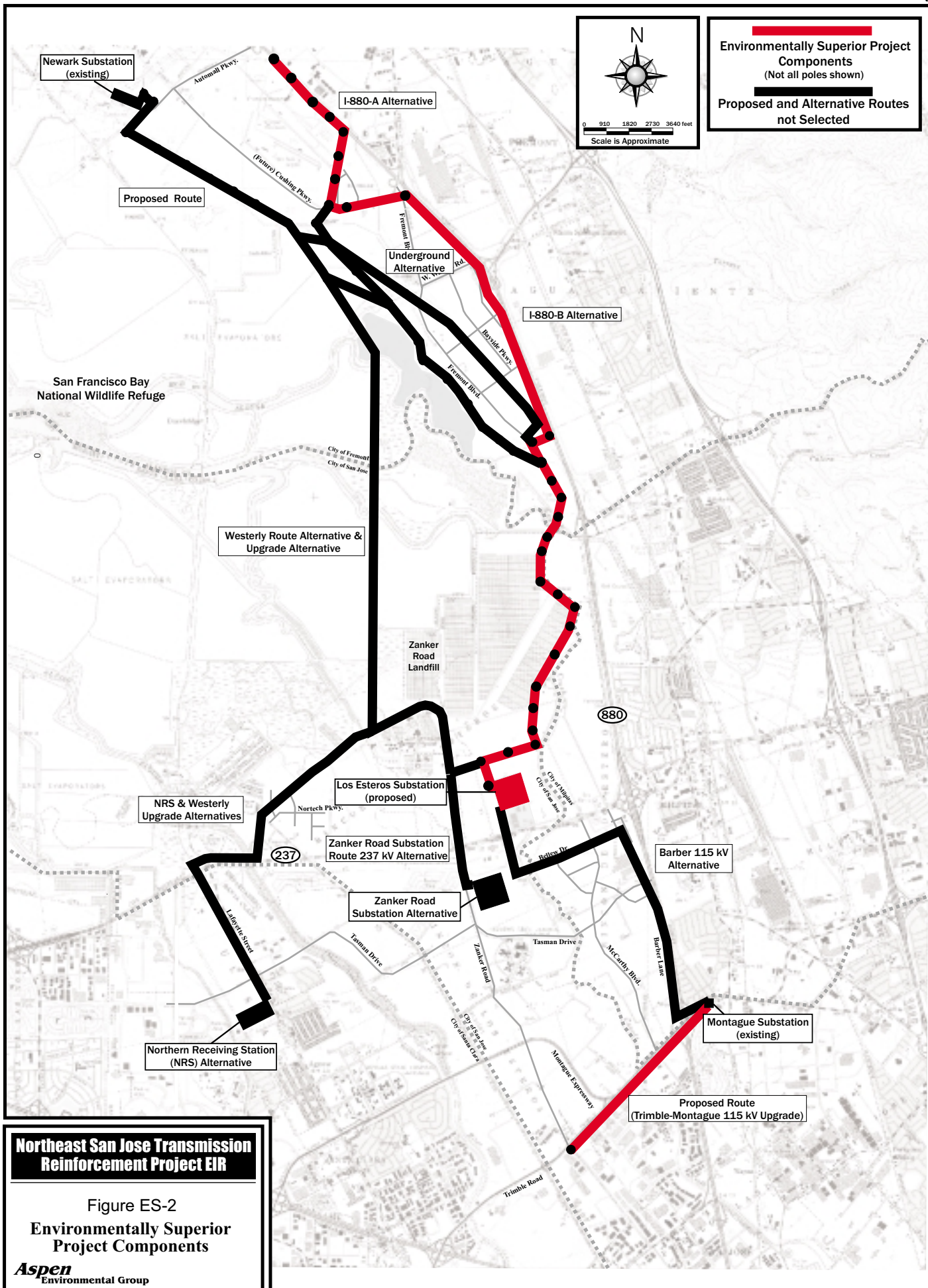
**Illustration of the Complete Environmentally Superior Project.** Figure ES-2 illustrates the Environmentally Superior Transmission Line Route, substation location, and 115kV upgrade route. This figure illustrates the 230kV route that combines the proposed and alternative segments in a manner that reduces the impacts of the proposed project to the greatest extent feasible.



**Northeast San Jose Transmission Reinforcement Project EIR**

Figure ES-1  
Proposed Project and All Alternatives

**Aspen**  
Environmental Group



**Northeast San Jose Transmission Reinforcement Project EIR**

Figure ES-2  
**Environmentally Superior Project Components**

**Aspen**  
 Environmental Group

### 3. DESCRIPTION OF PROPOSED PROJECT AND ALTERNATIVES

#### 3.1 PROPOSED PROJECT

The Northeast San Jose Transmission Reinforcement Project is needed to meet the projected electric demand in the Cities of Fremont, Milpitas, San Jose, and Santa Clara (the greater San Jose area). As illustrated in Figure ES-1, the Project is located within the Cities of Fremont and San Jose, and includes a small unincorporated area of Santa Clara County. The four major components (see Table ES-2) of the proposed project are:

- **Los Esteros Substation:** A new 230/115 kV substation located in unincorporated Santa Clara County to provide 230kV power, which would be transformed to 115kV power and distributed to existing distribution substations. In addition, the new substation will have the capability of expanding its distribution facilities in the future (four 230/21 kV transformers and 21 kV distribution feeders).
- **230kV Transmission Line:** A new 7.3-mile 230 kV double-circuit transmission line from the existing 230kV Newark Substation (in the City of Fremont) to the proposed Los Esteros Substation.
- **Newark Substation Modification:** Modification of the existing Newark Substation to accommodate the new 230 kV double-circuit transmission line.
- **115kV Connections and Distribution Line Upgrade:** The Los Esteros Substation would initially be connected to four existing 115kV distribution lines that connect to 115kV substations and facilities (Kifer, Trimble, Montague, and Agnews). Connection to the Montague Substation would require replacement of a segment of an existing 115 kV single-circuit wood pole line with a double-circuit steel pole line along Trimble Road and Montague Expressway (in the City of San Jose).

#### 3.2 ALTERNATIVES

As a part of the alternatives evaluation process, 22 potential alternative routes or methods of providing the required increase in electricity to the region were evaluated. Of these, 12 alternatives were eliminated because they did not offer significant environmental advantages over the proposed project or because they were not feasible. This EIR includes analysis of five alternative routes for the 230kV transmission line, two alternative substation sites, and two alternatives to the 115kV upgrade, as well as the No Project Alternative. These alternatives are considered in this document for full analysis so that they can be compared to the proposed project. Figure ES-1 shows where these alternatives are located. The alternatives include:

##### 230kv Transmission Line Route (Or Partial Route) Alternatives

- **I-880-A Alternative:** This route would replace the northernmost portion of the proposed route and would avoid most impacts to the Pacific Commons Preserve



**Table ES-2 Summary of Project Components**

Project Component	Description
<b>Los Esteros Substation</b>	<ul style="list-style-type: none"> <li>• Developed acreage: 24 acres (approx.1,020 feet by 1,050 feet, including the Los Esteros 230/115 kV Substation, fenced with paved access road)</li> <li>• Voltage transformers, line traps, control, protection, and communications</li> <li>• Transformer size: four 420 megavolt amperes (MVA) 230/115 kV transformers (three in 2002)</li> <li>• Line switching equipment</li> <li>• Bus structures</li> <li>• Dead-end structures</li> <li>• One 115 kV three-step shunt capacitor bank (first three steps 2002)</li> </ul>
<b>230 kV Transmission Line Facilities</b>	<ul style="list-style-type: none"> <li>• Conductors: double-circuit, bundled 1113 kcmil all aluminum, each circuit with three phases and two sub-conductors per phase</li> <li>• Minimum ground clearance: 32 feet</li> <li>• Diameter: 1.22 inches</li> <li>• Distance between sub-conductors: 18 inches</li> <li>• Shield wire Diameter: 0.385 inches</li> <li>• Structure types: tubular steel poles (gray)</li> <li>• Structure heights: varies 95 feet to 195 feet</li> <li>• Approximate distance between structures: 800 to 1,600 feet</li> <li>• Total number of structures: 36 to 40</li> </ul>
<b>Newark Substation Modification</b>	<ul style="list-style-type: none"> <li>• Supporting structures: two line positions</li> <li>• Bus structures: three bay extension</li> <li>• Line switching equipment</li> <li>• Line traps, control, protection, and communication equipment</li> </ul>
<b>115kV Connections</b>	
<b>Los Esteros Substation 115kV Connections</b>	<ul style="list-style-type: none"> <li>• Conductors: Kifer, Trimble and Montague circuits: C one circuit bundled with two sub-conductors per phase 715.5 kcmil all aluminum</li> <li>• Conductors: Agnews circuit: C one circuit single 715.5 kcmil all aluminum conductor</li> <li>• Diameter: 0.974 inches</li> <li>• Minimum ground clearance: 32 feet</li> <li>• Shieldwire Diameter: 0.385 inches</li> <li>• Structure types: self-supporting (galvanized) tubular steel poles colored gray with wood poles for parts of Kifer and Agnews circuits</li> <li>• Structure heights: varies 80 feet to 110 feet</li> <li>• Approximate distance between structures: 300 to 800 feet</li> <li>• Total number of structures: 15 to 18 tubular steel structures and 10 to 12 wood pole structures</li> </ul>
<b>Los Esteros to Montague 115 kV Power Line (on Trimble Road and Montague Expressway)</b>	<ul style="list-style-type: none"> <li>• Conductors: double-circuit, 715.5 kcmil all aluminum bundled with two sub-conductors per phase on the northerly circuit (Los Esteros to Montague) and 715.5 kcmil all aluminum single conductor per phase for the southerly existing circuit (Montague to Trimble).</li> <li>• Minimum ground clearance: 32 feet</li> <li>• Diameter: 0.974 inches</li> <li>• Structure types: self-supporting tubular steel poles</li> <li>• Structure heights: varies 80 feet to 110 feet</li> <li>• Approximate distance between structures: 300 to 800 feet</li> <li>• Number of structures: 22 to 26</li> </ul>

- **I-880-B Alternative:** This route would follow the eastern edge of the Bayside Business Park (rather than the western edge where the proposed route is located)
- **Underground Through Business Park Alternative:** In this alternative, the 230kV transmission line would be installed underground through the business park rather than along the western edge of the business park (which is adjacent to wetlands mitigation ponds and recreation trails)
- **Westerly Route Alternative:** This route would avoid nearly all developed areas by following PG&E Co.'s existing transmission corridor through parts of the Don Edwards San Francisco Bay National Wildlife Refuge and other open spaces
- **Westerly Route Upgrade Alternative:** Following the same route as the Westerly Route above, this would be a different electrical configuration in which the two existing 115kV double-circuit lines would be removed and two new 230kV double-circuit lines would be installed.

## Substation Alternatives

- **Northern Receiving Station site:** This site, located in the City of Santa Clara, has been approved by the City for use as a 115kV substation, and could accommodate both facilities.
- **Zanker Road Substation site:** Just south of State Route 237, on the east side of Zanker Road, this site could also accommodate the substation.

## 115kV Upgrade Alternatives

- **Underground Trimble-Montague Alternative:** This alternative would involve an underground 115kV line along the same route as the proposed above ground upgrade.
- **Barber Lane Alternative:** This alternative, while one mile longer than the proposed 115kV upgrade, would avoid the busy streets of Trimble Road and Montague Expressway.

In addition to the alternatives described above, the No Project Alternative is evaluated in each environmental issue area. The No Project Alternative addresses the impacts of the actions that would occur if the proposed project is not constructed. The demand for electrical service in San Jose, Fremont, Milpitas, and Santa Clara would still grow and either the electricity would be supplied by other means or electrical service quality would quickly decline.

## 4. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

### 4.1 INTRODUCTION

Section 4 summarizes the findings from the environmental analysis for each of the 11 environmental issue areas evaluated in the EIR. Within each issue area the following information is summarized: impacts identified for the proposed project, proposed mitigation measures, significant unavoidable impacts, and alternatives. Impacts were evaluated in each issue area using the following classification of the impacts:

- Class I:** Significant; cannot be mitigated to a level that is not significant
- Class II:** Significant; can be mitigated to a level that is not significant
- Class III:** Adverse, but not significant
- Class IV:** Beneficial impacts.

### 4.2 AIR QUALITY

**Impacts of the Proposed Project.** The Bay Area Air Quality Management District (BAAQMD) has developed significance criteria for pollutants resulting from construction and operation of proposed projects. BAAQMD has determined that fine particulate matter (PM<sub>10</sub>) is the pollutant of greatest concern with respect to construction emissions and thus believe that determination of significance with respect to construction emissions should be based on consideration of the specific PM<sub>10</sub> control measures to be implemented. In addition, demolition of any building materials that contain asbestos would be considered

a significant impact if the BAAQMD's Enforcement Division is not consulted prior to commencement of demolition. For project operations BAAQMD recommends that estimated project emissions be compared to numerical thresholds for reactive organic compounds (ROC), nitrous oxides (NO<sub>x</sub>), and PM<sub>10</sub>. The following potential impacts were identified resulting from project construction and operation:

- The Applicant did not propose to implement all BAAQMD PM<sub>10</sub> control measures, which violates BAAQMD significance criteria (Class II)
- Demolition activities at the proposed substation site could potentially cause asbestos fibers to become airborne (Class II)
- Operational emissions would result from vehicular emissions associated with periodic maintenance, repair, and inspection of project components (Class III)
- Indirect emissions would result from generation of additional power by the regional power plants that provide electricity to the area (Class III).

**Mitigation Measures:** Three BAAQMD PM<sub>10</sub> control measures that were not included as Applicant Proposed Measures are presented along with one measure designed to investigate whether buildings to be demolished at the proposed substation site contain asbestos, and if the investigation reveals that the buildings do contain asbestos, proper coordination with BAAQMD shall be initiated.

**Significant Unavoidable Impacts:** There are no significant unavoidable air quality impacts associated with the proposed project.

**Alternatives:** Some alternative alignments would have the potential to generate more emissions than the proposed project. Generally, alternatives that involve construction of more transmission structures, or are significantly longer than the proposed project, would generate more emissions than the proposed project.

#### 4.3 BIOLOGICAL RESOURCES

**Impacts of the Proposed Project.** Although most of the proposed transmission line route passes through developed areas and disturbed grasslands with marginal habitat value, there are segments of the route with sensitive habitats and special status species that may be affected by proposed project construction. Several federal and state-listed species use salt ponds, seasonal wetlands, and tidal wetlands within or adjacent to the proposed transmission line route for foraging or breeding (California clapper rail, western snowy plover, and vernal pool tadpole shrimp). Transmission line operation and maintenance would result in additional impacts. One significant and unavoidable impact was identified: the potential for bird mortality resulting from collision with transmission lines. The following impacts to biological resources were identified as significant, but mitigable impacts (Class II):

- Temporary and permanent loss of plant communities
- Direct mortality and direct disturbance to wildlife
- Overland travel disturbance of habitats
- Indirect impacts on wildlife from increased human access and presence
- Temporary and permanent loss of special status plants and habitats

- Overland travel disturbance of special status plant species.

**Mitigation Measures.** Six mitigation measures are proposed to reduce potentially significant impacts (Class II) to biological resources to non-significant levels. Four measures would protect plant communities and special status plants through avoidance, and two measures protect wildlife resources by reducing construction-related disturbance and avoiding critical habitats and breeding seasons.

**Significant Unavoidable Impacts.** The potential for bird collisions with transmission lines is considered to be a significant unavoidable impact resulting from the project or the alternatives.

**Alternatives.** Potential impacts to biological resources of the four transmission line route alternatives are similar to those of the proposed project because they cross similar habitat types. A combination of the I-880-A and I-880-B alternatives is preferred to the comparable segment of the proposed transmission line route because it would reduce potential impacts to burrowing owls and California tiger salamanders, and reduce the potential for bird collisions with power lines.

#### 4.4 CULTURAL RESOURCES

**Impacts of the Proposed Project.** No recorded cultural sites were identified along the proposed 230 kV route or within the proposed substation. However, one site is near the proposed Los Esteros Substation (although it is believed to have been destroyed), and two sites are located adjacent to the Trimble-Montague 115 kV Upgrade segment. The former location of the American Period Midway School is adjacent to the Trimble-Montague alignment, and one prehistoric archaeological site is near its southern terminus. Although it is not certain, the Midway School location appears to have some potential for as-yet unknown historic archaeological materials.

Two potential impacts to cultural resources could occur during project construction:

- Previously unrecorded cultural resources could be discovered during ground disturbing construction operations (**Class II**)
- Project construction could damage or destroy recorded cultural resources or those in high-potential areas (**Class II**).

**Mitigation Measures:** Three mitigation measures are proposed to reduce potentially significant impacts to cultural resources. The first mitigation measure requires that all construction personnel be trained regarding the possibility of encountering cultural resources and presents the guidelines to follow if in fact a site or artifact is discovered. The second mitigation measure requires PG&E to develop a general Treatment Plan that includes procedures for discovering unexpected cultural resources. The third mitigation measure ensures archaeological monitoring during subsurface construction of areas identified as having the potential for significant buried cultural materials.

**Significant Unavoidable Impacts:** There are no significant unavoidable cultural resources impacts associated with the proposed project or alternatives.

**Alternatives:** Each of the alternatives has the potential to affect unrecorded cultural resources, so the two mitigation measures that would allow identification and protection of these resources should be implemented. Two recorded prehistoric sites are located near the alignment of the Westerly Route and Westerly Upgrade Alternatives; however, archaeological monitoring would not be required due to the distance to one site and the known destruction of the other. Two alternatives have nearby recorded cultural sites, requiring archaeological monitoring during construction:

- The Barber 115kV Alternative (alternative to the Trimble-Montague 115kV Upgrade) could affect the site of a historic property and a prehistoric site near State Route (SR) 237
- Two recorded prehistoric sites and nine Hispanic Period resources are located near the alignment of the Northern Receiving Station Alternative's 230kV transmission line.

No recorded archaeological resources were identified for the I-880-A, I-880-B, or Zanker Road Substation Alternatives.

#### **4.5 GEOLOGY, SOILS, AND PALEONTOLOGY**

**Impacts of the Proposed Project.** The San Francisco Bay Area is a seismically active area with the potential for the proposed project to be affected by several geologic hazards. The most significant seismic hazards to the proposed transmission lines and substation are strong ground shaking, liquefaction and associated ground deformations. Other significant hazards to the transmission lines and substation are the effects of ground subsidence, expansive soils, soft or loose soils, and corrosive soils. The following specific impacts are identified:

- Conversion of agricultural soils to a non-agricultural use is a significant and unavoidable impact (**Class I**)
- Potential strong ground shaking from earthquakes causing damage to project structures and equipment is a significant but mitigable impact (**Class II**)
- Potential liquefaction, lateral spreading and differential settlement causing significant damage to project structures and substation equipment is a significant but mitigable impact (**Class II**)
- Corrosive soils beneath transmission support foundations and buried transmission lines is a significant but mitigable impact (**Class II**)
- Erosion from construction excavations is a significant but mitigable impact (**Class II**)
- Potential surface fault rupture of the eastern trace of the Silver Creek Fault is an adverse but not significant impact (**Class III**).

**Mitigation Measures.** Three mitigation measures are proposed. The first requires design-level geotechnical studies to identify areas of high corrosion potential to assist in designing foundations which will withstand corrosion. The second requires design-level geotechnical studies to identify areas of expansive soils, soft or loose soils or high ground water table which may cause differential settling to assist in developing specific design measures to minimize potential damage from these soil phenomena. The third requires design-level geotechnical studies to further define areas of potential liquefaction, lateral spreading

and differential settlement to assist in developing specific design measures to minimize potential damage from these potential hazards.

**Significant Unavoidable Impacts.** The conversion of 24 acres of agricultural soils to a non-agricultural use is a significant unavoidable impact. The location of the proposed project substation would be located on 24 acres of agricultural soils rated as excellent and replace them with engineered artificial fill and foundation materials.

**Alternatives.** The potential for corrosive soils would be slightly higher for the Westerly Alternative, and higher still for the Westerly Upgrade Alternative than for the proposed route. Both the Northern Receiving Station and the Zanker Road Substation alternatives would avoid both the potential for surface fault rupture and the conversion of agricultural soils to a non-agricultural use, and would be preferred to the proposed substation location. The potential for liquefaction would affect the Barber Road Alternative more than the proposed route, with the other alternatives being affected equally but less than the proposed project route.

#### **4.6 HYDROLOGY AND WATER QUALITY**

The EIR addresses potential impacts to surface water and groundwater resources generated by the proposed project in Section C.6. This analysis begins with a review of the existing hydrologic setting describing current conditions of surface flow, flooding, surface water quality, groundwater hydrology, and groundwater quality. Impacts to these conditions caused by the proposed project are then assessed and mitigation measures are offered.

**Impacts of the Proposed Project.** Several potentially significant impacts could result from construction of the proposed project:

- Tower construction in Salt Ponds A22 and A23 could result in the disturbance of levees, dikes, berms, and natural drainage channels
- Construction related sediment loading of excavated spoils to creeks and wetlands
- Discharge of construction related contaminants (including fuels) into the drainage network
- Subsurface construction activities for tower and the substation could impair groundwater quality
- Increased sediment loading from proposed substation site.

**Mitigation Measures.** All of the significant hydrologic impacts described for the proposed project are capable of being reduced in significance through the application of seven proposed mitigation measures. One measure preserves channel integrity and the form of the drainage network during construction processes. Erosion, sediment loading, and contamination impacts shall be controlled through four measures which outline Best Management Practices, Storm Water Pollution Prevention Plans, and Erosion Control Plans. Impacts to groundwater quality shall be reduced through two measures whereby soil and groundwater are tested prior to construction, contamination is disposed of, and site remediation occurs if necessary.

**Alternatives.** Impacts due to the Underground Through Business Park Alternative are similar to the proposed project: however, there are additional impacts to groundwater hydrology and quality related to increased trenching activities. The significant impacts caused by the I-880-A Alternative are nearly identical to the proposed project. Impacts from the I-880-B Alternative are also very similar to the proposed project with an added potential impact to the Fremont Flood Control Channel. The Westerly Route Alternative requires construction practices that could alter channel forms in Coyote Creek and the Wetland Mitigation Pond. Such impacts are non-mitigable in the short term. However, natural processes could repair such impacts over time. The Westerly Upgrade Alternative has similar channel impacts as the Westerly Alternative, but is considered more favorable in that its increased transmission capacity may prevent the need for future projects. The Northern Receiving Substation Alternative requires crossing the Guadalupe River and its associated floodplain marshes, activities which are not required by the proposed Los Esteros Substation. The Zanker Road Alternative substation site could involve additional groundwater quality impacts due to potential contamination from the neighboring Santa Clara Valley Transportation Authority facility. The Barber 115kV Alternative requires a wider creek and floodplain crossing of Coyote Creek than the proposed project. Lastly, the Underground Trimble-Montague 115kV Alternative requires an underground crossing of Coyote Creek that is not required in the proposed project.

#### 4.7 LAND USE AND RECREATION

The Land Use and Recreation section describes the existing land uses on and adjacent to the substation sites and along/adjacent to the proposed project and alternative alignments. The applicable land use designations and zoning districts assigned to the proposed project and alternative alignments and substations are also identified and described. For each of the city or county planning agencies with jurisdiction over a portion of the project, their general plans and zoning ordinances are reviewed and a detailed analysis of the proposed project's consistency with relevant policies is presented. A similar analysis is presented for other regional, State, or federal planning documents applicable to the project area, such as the *San Francisco Bay Plan*. The impact analysis for the proposed project and alternatives focuses on displacement of or conflicts with existing land uses, incompatibility with existing or planned recreational uses, loss of agricultural uses, and conflicts with applicable planning policies and regulations.

**Impacts of the Proposed Project.** The following construction impacts were identified as adverse but not significant (**Class III**) for the proposed project:

- Business park occupants and residences near the Los Esteros Substation would be affected by noise, dust, and temporary displacement of parking spaces as a result of construction equipment and activities
- Recreational trail users would experience short-term blockage of trail access during construction.

A significant but mitigable construction impact (**Class II**) was identified for farmers due to interference with agricultural production.

The following adverse but not significant (**Class III**) operational impacts were identified for the proposed project:

- Business park occupants would experience a degradation of views and potential equipment interference from transmission line electric fields
- Displacement of existing full- and part-time residents on the Los Esteros Substation site
- Inconsistency of the Los Esteros Substation with Santa Clara County zoning of the site.

Following are the significant but mitigable (**Class II**) impacts associated with operation of the proposed project:

- Degraded views for users of existing and planned recreational trails
- Inconsistencies with local and regional policies, including two *San Francisco Bay Plan* policies (related to protection of underground fresh water aquifers and visual impacts on the Bay shoreline), and a *Fremont General Plan Policy* pertaining to compatibility with the San Francisco Bay National Wildlife Refuge
- Conversion of Prime Farmland on the Los Esteros Substation site, and an *Alviso Specific Plan* policy requiring landscaping to screen unattractive uses
- Degraded views and potential exposure to EMFs for residents near the Los Esteros Substation
- Potential impact on future residential trail users if access to a planned trail segment was impeded or blocked by the Los Esteros Substation access road.

**Mitigation Measures.** Mitigation measures for all of the construction dust, noise, and parking impacts include advance written notice to affected parties and provision of a public liaison to address complaints. To mitigate temporary blockage of the recreational trail during construction, the Applicant shall use a temporary clearance structure to maintain access at the north end and arrange with the property owner at the south end to allow construction of a temporary detour. To mitigate the construction impact on cropland, the Applicant shall time construction so as to avoid the impact or compensate the farmer for lost productivity. No mitigation measures are feasible for the visual impacts on business park receptors. To mitigate the operational impact on recreational trail users, the Applicant shall coordinate with the affected local planning agencies prior to finalizing project design to ensure that support towers are not placed in the middle of planned trail alignments.

No mitigation measures are feasible for the impact due to inconsistency with the *Bay Plan* policy on visual compatibility with the Bay shoreline. For the impact related to inconsistency with a *Fremont General Plan* policy on compatibility, a mitigation measure is identified in the section on Biological Resources. No mitigation measures are recommended or required for the impacts related to displacement of existing residents from the substation site and inconsistency with County zoning of the substation site. To mitigate the operational impact on residents south of the substation site, the Applicant shall ensure that support towers are at least 300 feet from the nearest residence. To mitigate the impact on future trail users, the Applicant shall coordinate the design of the substation access road with the City and/or County to ensure trail access for recreational hikers.

**Significant, Unavoidable Impacts.** Several significant, unavoidable land use impacts have been identified for the proposed project. They are: (1) degradation of the recreational experience along regional and



subregional trails; (2) inconsistency with *Bay Plan* Appearance, Design, and Scenic Views Policies 4 and 10; and (3) conversion of Prime Farmland on the Los Esteros Substation site.

**Impacts of Alternatives.** Seven of the alternatives to the proposed project would also create the significant, unmitigable visual impact on recreational trail users. These are the Underground Through Business Park Alternative, Westerly Route Alternative, Westerly Upgrade Alternative, Northern Receiving Station Alternative, Zanker Road Substation Alternative, Barber 115 kV Alternative, and Underground Trimble-Montague 115 kV Alternative. Nine of the alternatives would result in the same inconsistency with *Bay Plan* policies identified for the proposed project as a significant, unmitigable impact. These alternatives are the Underground Through Business Park Alternative, I-880-A Alternative, I-880-B Alternative, Westerly Route Alternative, Westerly Upgrade Alternative, Northern Receiving Station Alternative, Zanker Road Substation Alternative, Barber 115 kV Alternative, and Underground Trimble-Montague 115 kV Alternative. Eight of the alternatives would result in the significant, unmitigable impact related to conversion of Prime Farmland. The alternatives are: the Underground Through Business Park Alternative, I-880-A Alternative, I-880-B Alternative, Westerly Route Alternative, Westerly Upgrade Alternative, Northern Receiving Station Alternative, Barber 115 kV Alternative, and Underground Trimble-Montague 115 kV Alternative. Additional, less severe and/or mitigable impacts have been identified for the alternatives.

#### 4.8 NOISE AND VIBRATION

**Impacts of the Proposed Project:** The following impacts were identified associated with the proposed transmission line and substation:

- Workers in the vicinity of the Bayside Business Park might be affected by intermittent and continuous noise levels during transmission line construction (**Class II**)
- Noise associated with passing trucks and commuting workers during construction could disturb adjacent receptors (**Class III**)
- Temporary vibration associated with pile driving could disturb businesses with 200 feet of the construction right-of-way (ROW)(**Class III**)
- Audible transmission line noise would be generated that may be audible at the edge of the transmission line ROW (**Class II**)
- Inspection and maintenance activities could generate adverse, but less than significant impacts (**Class III**)
- Noise generated from transformers of the proposed substation could generate adverse, but less than significant impacts (**Class III**).

Construction noise can be controlled or reduced through a variety of techniques as described under Mitigation Measures below. No noise impacts are noted for operation of the proposed project.

**Mitigation Measures.** Impacts of the proposed project would be reduced through implementation of mitigation measures presented in land use, including providing advance notice to businesses and residences prior to start of construction adjacent, and establishing a toll-free telephone hotline for noise complaints.

**Significant Unavoidable Impacts.** No significant unavoidable noise impacts would result from the proposed project.

**Alternatives.** Evaluation of noise impacts is based on impacts to noise receptors and evaluation of the baseline noise levels. The Westerly Route Alternative and Westerly Upgrade Alternative would be superior to the proposed project due to their remote locations. Within the Bayside Business Park, the proposed route segment and the I-880-A Alternative are preferred over the Underground Alternative due to the construction noise associated with installation of the underground cable. The proposed Los Esteros Substation is preferred over either the Zanker Road or Northern Receiving Station substation sites due to the lack of noise receptors near the Los Esteros site.

#### **4.9 PUBLIC HEALTH, SAFETY AND NUISANCE**

The prevalent concerns of the public with respect to health, safety and nuisance are primarily focused in two areas, namely, electric and magnetic fields (EMF) and radio, television, or electrical equipment interference. Electric and magnetic fields are present in the existing environment both naturally and as a result of human activities that use electricity. Additional electric and magnetic fields will be generated as a result of the project. The EMF levels from the project are within the range anticipated for power lines of this type and size. The fields from the project will be very localized since field strength attenuates rapidly as distance from the source increases.

EMF levels from transmission lines are not regulated nationally. In a few states, EMF levels are regulated at levels in excess of the field strengths expected for this project. The CPUC has not adopted any specific limits on EMF, but it has issued a decision created a research program (described below), and requires the use of “low-cost” or “no-cost” mitigation measures for transmission lines and substations such as those included in the proposed project. PG&E Co. has indicated that low-cost or no-cost mitigation measures will be employed to reduce field strengths from this project.

In California, ongoing research and policy analysis is being carried out through the CPUC and the Californai Department of Health Services (DHS). The CPUC Decision 93-11-013 created the California Electric and Magnetic Fields (EMF) Program to research and provide education and technical assistance on the possible health effects of exposure to electric and magnetic fields from powerlines and other uses of electricity. In addition to funding research and policy analysis on this issue, the EMF program provides education and technical assistance to government agencies, professional organizations, businesses, and members of the general public. Under the CPUC decision, this program is funded by money provided by the state's investor-owned utilities and is based in the DHS. The California EMF program produces periodic reports to the CPUC, and its goal is to make the research, policy analysis, and educational products useful to the CPUC in future decision-making. Presently, there is no scientifically established cause

and effect relationship between EMF exposure and health effects, although significant research and discussion continues on this subject.

Power lines can also generate high frequency energy and EMF that can interfere with broadcast signals or electronic equipment, this is generally not a problem for power lines of the type and size proposed for this project. Radio and television interference problems, when they do occur, tend to be associated with loose or worn hardware, and the sources of interference can be located and remedied. It is also recognized that certain levels of magnetic fields may interfere with electronic equipment or computer monitors; these problems can be resolved with a variety of measures, including relocation of the monitor, use of magnetic shield enclosures or replacement with liquid crystal displays that are not susceptible to magnetic fields.

#### **4.10 SOCIOECONOMICS, PUBLIC SERVICES, AND UTILITIES**

The nine county Bay Area is one of the largest and most dynamic metropolitan areas in the country. Its employment and population have grown and are expected to continue to grow at a substantial rate. Between 1990 and 2000, Bay Area population is estimated to have grown by more than 900,000 people while regional employment grew from 3.2 million to approximately 3.7 million, matching the 15 percent increase of population growth. Projections suggest an employment growth rate of 27 percent between 2000 and 2020. Since the population growth rate is only forecast to be 16 percent during the 20 year time span, a population growth of approximately 1.1 million, there is likely to both be an increase in labor force participation and a growth of in-commuting to Bay Area jobs from the surrounding counties.

The community socioeconomic characteristics which are analyzed for the region and project area include employment patterns, income, and population and household trends. The data presented are primarily from the 1990 US Census and the Association of Bay Area Governments' (ABAG) Projections 2000. Other sources include the state Department of Finance's population estimates and employment data compiled by the California Employment Development Department (EDD).

Much of the project area is urbanized or in the process of undergoing rapid urbanization, particularly industrial and commercial growth. The Cities of Fremont and San Jose, as well as school districts, water districts, and sewage treatment facilities serve the project area. Demographically, the project area is fairly typical of the two cities, with the exception that the northern San Jose/Alviso area is a community with below average household income and a higher proportion of Hispanic residents than the City of San Jose on average.

With the exception of the proposed Los Esteros substation site, the project would have little impact on employment patterns or households. A small number of residents and employees would be displaced by the acquisition and demolition of existing uses on the Los Esteros substation, which includes seasonal greenhouses, several homes, and temporary housing for up to 25 workers and families. With PG&E Co.'s intent to comply with the provisions of the California Uniform Relocation Act, this displacement is considered a Class II impact, significant but mitigated. The possibility exists that the proximity of the

transmission line to research and development buildings in the Bayside Business Park could affect the use of electronic equipment within the buildings.

Impacts on public services and utilities are also expected to be less than significant, with the exception that the transmission line could interfere with the drying ponds of the San Jose/Santa Clara Water Pollution Control Plant.

The socioeconomic and public services/public utility setting is the same for project alternatives. Undergrounding alternatives would diminish potential property value impacts, but potentially have a more disruptive construction period on nearby land uses.

#### **4.11 TRAFFIC AND TRANSPORTATION**

Potential transportation impacts from the project are primarily associated with construction of the transmission lines and substation. (Since there is minimal employment or human activity associated with operations and maintenance, their traffic and parking impacts are also negligible.) Construction impacts may generally include: lane closures, increased traffic from construction crews and haul trucks, physical damage to roads and sidewalks, impaired property access, restricted pedestrian/bicycle circulation and increased traffic safety risks, potential interference with emergency response vehicles, use of public roads and parking for construction activities. Interference with public transit, rail, and aviation is also a potential adverse impact.

No transportation impacts were found to be significant unavoidable impacts.

The types of impacts that could occur during construction of the proposed 230kV transmission line include: potential physical damage to roadways, restricted access to properties, increased accident risk due to pedestrians and bicyclists entering the roadway, potential interference with emergency response. These potential impacts could be mitigated by prompt repair of any damage, provisions for alternative property access, alternative pedestrian/bicycle routes, and coordination with emergency service providers.

Significant but mitigable impacts would also be caused by lane closures for the Trimble-Montague 115kV Upgrade, as this is immediately adjacent to the right-of-way for major arterial streets. Assuming PG&E Co. compliance with Caltrans permit requirements, the crossing of I-880 should not cause significant impacts.

The alternatives to the project would vary in their transportation impacts compared to the proposed project:

- 230 kV Transmission Line Underground Through Business Park: The trenching needed to construct this alternative would have a more substantial and prolonged impact on the physical condition of the roadways and on traffic flows. However, the impacts could still be mitigated by appropriate measures mentioned above for the proposed project.

- I-880-A Alternative: The transportation impacts for this alternative would be essentially the same as for the proposed project.
- I-880-B Alternative: This alternative would likely have greater adverse traffic impacts as it would increase the number of roadway crossings significantly. Furthermore, the proposed route would potentially conflict with plans for a partial cloverleaf interchange at West Warrant Avenue/Mission Boulevard. The alignment of this alternative could be changed to avoid conflicts with the planned interchange improvement.
- Westerly Route Alternative: This alternative would have essentially the same transportation impacts as for the proposed project. It would be completely separate from the Bayside Business Park, but would involve construction along two-lane roads (Los Esteros and Zanker), but outside the right-of-way.
- Westerly Upgrade Alternative: There would be no significant difference between this alternative and the Westerly Route Alternative.
- Zanker Road Substation Alternative: This alternative would potentially increase the significant adverse impacts of the proposed project, with an additional crossing of the SR237 freeway and construction adjacent to a vehicle transportation authority (VTA) bus maintenance facility. However, these additional impacts could be mitigated.
- Northern Receiving Substation Alternative: This alternative would potentially increase the significant adverse impacts of the proposed project, with additional roadway crossings, including SR 237. However, these additional impacts could be mitigated.
- Barber 115 kV Alternative: This alternative would require more roadway crossings than the Trimble-Montague 115kV Upgrade (including an additional crossing at SR 237) and would generally be more disruptive of the transportation system. It would also cross the Tasman East light rail line (currently under construction) and cross a bicycle trail paralleling SR 237. There would be numerous crossings of driveways to Milpitas businesses, potentially affecting property access. These impacts would be significant but could be mitigated by the kind of measures discussed above for the proposed project.
- Underground Trimble-Montague 115 kV Upgrade: The impacts would be similar to those of the proposed (above-grade) Trimble-Montague 115kV Upgrade, but there would be more extensive and prolonged adverse effects on motor vehicle, pedestrian/bicycle circulation, and property access. However, these impacts could be mitigated by the kinds of measures described above for the proposed project.
- No Project Alternative: If the demand for electrical power exceeded the capacity of the existing system, as anticipated, the No Project Alternative could result in the requirement for other utility construction projects. In the short-term, improvements would be made to the existing system, which would result in minor temporary traffic impacts at each construction site. In the long-term, it may be necessary to construct another transmission line, which would likely result in traffic and aviation impacts similar to those of the proposed project.

#### 4.12 VISUAL RESOURCES

**Impacts of the Proposed Project.** Project area landscapes encompass a complex of visual features characteristic of a landscape in transition from an historical agricultural and bay margin environment to one of business and industrial parks, residential development, and infrastructure that is characteristic of the highly urbanized Silicon Valley. In the context of this rapid urbanization, the remaining open viewsheds of the salt ponds and remnant bay margin wetlands become highly valued visual resources for the visual respite they provide from the adjacent urban intensity. Implementation of the proposed project will result in the introduction of new structures into both urbanized and undeveloped landscapes. The visual significance of new project construction depends on the existing visual character of the host landscape, site

specific placement of project elements, and the viewer's location and expectations. In general, project components located in the open landscapes of the salt pond and wetland environments result in greater visual impact while components located within, or adjacent to, existing development results in lesser visual impact. The following specific visual impacts have been identified for the proposed project:

- The presence of construction equipment, materials, and personnel along the proposed project route and substation site would result in adverse but not significant (**Class III**) visual impacts
- Placement of new structures adjacent to existing transmission lines south of Auto Mall Parkway results in an adverse but not significant (**Class III**) visual impact
- Placement of new structures in the bay margin wetland / salt pond environment lacking built structures between Mileposts (MP) 2.2 and 2.7 results in a significant and unavoidable (**Class I**) visual impact
- Introduction of new structures adjacent to Bayside Business Park and the mitigation pond results in an adverse but not significant (**Class III**) visual impact
- Placement of new structures adjacent to Coyote Creek and a Bay Trail segment results in an adverse but not significant (**Class III**) visual impact
- Construction of the proposed transmission line in the vicinity of the proposed Los Esteros Substation would result in an adverse but not significant (**Class III**) visual impact as experienced from the SR237 corridor
- Construction of the proposed Los Esteros Substation would result in a significant but mitigable (**Class II**) visual impact.

**Mitigation Measures.** Two mitigation measures are provided for the proposed project. The first measure (V-1) recommends a reduction in structure heights as much as practical from MP 5.6 to MP 6.7 in order to lessen (though not eliminate) the adverse visual impact of the transmission line on views along Coyote Creek and the adjacent Bay Trail segment. The second measure (V-2) requires the development and implementation of a landscaping plan for the proposed Los Esteros Substation in order to reduce the significant visual impact that will be caused by the substation to a level that is not significant.

**Significant Unavoidable Impacts.** The placement of new structures in the bay margin wetland / salt pond environment between MP 2.2 and 2.7 would result in a significant, unavoidable Class I visual impact because that route segment would be located in an area that is lacking other built facilities. Views of that segment from area recreation and levee trails would perceive a proliferation of built facilities in a valued open landscape.

**Alternatives.** With respect to visual resources, the environmentally preferred alternative would be the No Project Alternative since no new structures would be introduced into existing landscapes. For the proposed project and remaining alternatives, underground facilities are preferred over aboveground facilities and new facilities that are located in close proximity to other built structures and facilities are preferred to those located away from other built structures. In comparing the proposed project with other alternatives, in general, the I-880-A and I-880-B alternatives in conjunction with either relocation mitigation measure V-1 and the Underground Through Business Park Alternative are preferred over the proposed project, which in turn is preferred over the Westerly Upgrade Alternative. The Westerly Alternative is least preferred from the visual resource perspective. Also, the Underground Trimble-Montague 115kV Alternative is preferred over the Trimble-Montague Upgrade, which in turn is preferred over the Barber 115kV Alternative. With respect to the substation alternatives, the proposed Los Esteros Substation is preferred

over both the Northern Receiving Station Substation Alternative and the Zanker Road Substation Alternative, both of which are relatively similar regarding impacts to visual resources.

## 5. COMPARISON OF ALTERNATIVES

### 5.1 INTRODUCTION

This section summarizes and compares the environmental advantages and disadvantages of the proposed project and the alternatives evaluated in detail in this EIR (see Figure ES-1). This comparison is based on the environmental impacts of the proposed project and each alternative, as identified in Sections C.2 through C.12.

Section 5.2 describes the process used for comparing alternatives. Section 5.3 includes a summary of the impacts of each alternative in comparison to the proposed route. Section 5.4 presents the Environmentally Superior Alternative, including a map of the environmentally superior transmission line route and substation.

### 5.2 COMPARISON METHODOLOGY

Following is the methodology that was used to compare alternatives in this EIR:

**Step 1:** An alternatives screening process (described in Section B.5) was used to identify the alternatives that had the potential to eliminate significant impacts of the proposed project.

**Step 2:** The environmental impacts of the proposed and the alternative route segments were identified (Sections C.2 through C.12), including the potential impacts of transmission line and substation construction and operation. These impacts are summarized for each alternative segment in Section 5.3.

**Step 3:** The environmental impacts of each transmission line segment were compared to the comparable segment of the proposed route (Section 5.3.1), then the substation alternatives were compared (Section 5.3.2), and finally the 115kV upgrade alternatives were evaluated (Section 5.3.3).

**Step 4:** The impacts in the 11 environmental issue areas were evaluated as to their relative importance so that the overall impacts of each alternative could be compared with the proposed project. Based on this evaluation, a conclusion was drawn as to the environmental superiority of each project component (230kV transmission line route, substation site, and 115kV upgrade); this conclusion is presented in Section 5.4.

CEQA does not provide specific direction regarding the methodology of alternatives comparison. Each project must be evaluated for the issues and impacts that are most important; this will vary depending on the project type and the environmental setting. For the Northeast San Jose Transmission Reinforcement Project, potential impacts in three environmental issue areas are considered to be most important in this analysis; these issue areas are biological resources, visual resources, and land use and recreation. These

issues were considered to have more weight in the comparison because they are long-term impacts that will be present for the life of the project: permanent visual intrusion from the Refuge, trails, and adjacent properties; permanent loss of small amounts of habitat for various species and increased risk of bird collision with transmission lines; and changes in the character of land uses, especially recreational lands. Impact conclusions in these three issue areas are weighted at approximately twice those in the minor issue areas.

The remaining eight environmental issue areas are those with either short-term construction impacts (i.e., air emissions, construction noise and vibration, transportation, and public services). Aside from the substation site, these impacts would occur at any single site for a very short time. The other issue areas included as “minor” include those for which no especially serious impacts have been identified, and in which most issues can be more easily reduced to non-significant levels with engineering solutions and mitigation measures (i.e., geology, hydrology, cultural resources). These issues are still considered in every comparison, but their conclusions carry less weight than the three described above.

### **5.3 COMPARISON OF ALTERNATIVES**

This section presents a summary comparison of the impacts of the proposed project and alternatives. For each project component (230kV transmission line segment, the substation alternatives, and the 115kV Upgrade alternatives), as well as the No Project Alternative, summary tables show the differences in environmental impact for each issue area.

Table ES-3 summarizes the characteristics of the alternatives, as provided by PG&E Co. While this table is useful for comparing the general characteristics of each alternative 230kV route, it does not present information for all combinations of route segments. The cost estimates shown in this table were provided by PG&E Co. and are difficult to verify. Therefore, these numbers should be used for general comparison of alternatives only.

As described in Section 5.2, for each set of comparisons, the 11 environmental issue areas are divided into two categories: issues of major importance (biological resources, land use and recreation, and visual resources), and issues of less importance (air quality, cultural resources, geology and soils, hydrology and water quality, noise, socioeconomics and public services, and transportation).

#### **5.3.1 230kV Transmission Line Alternatives**

In the northern and central portions of the 230kV transmission line, there are several ways to combine proposed and alternative route segments to develop an overall environmentally superior alternative. There are two possible routes north of the Bayside Business Park (northern area: proposed route and I-880-A), and three possible routes through the Business Park (central area: proposed route, I-880-B, and Underground Alternative). Therefore, this section evaluates this northern portion of the project and in those two areas: Section 5.3.1.1 evaluates the northern area and Section 5.3.1.2 evaluates the central area.



**Table ES-3 Characteristics of Proposed Project and Alternative Segments\***

Comparison Factors	Proposed Project	Underground through Business Park Alternative plus Proposed	I-880-A Alternative plus Proposed	I-880-B Alternative plus Proposed	Westerly Route Alternative	Westerly Upgrade Alternative (Phase 1 only)	NRS Substation (with transmission line)	No Project Alternative	
Total Length of New Line; # Structures	7.2 mi. 39 structures	7.4 mi. 34 structures	7.0 mi. 40 structures	7.0 mi. 41 structures	6.9 mi. 36-40 structures	14.2 mi. 68-72 structures	11.4 mi. 53-57 structures	0	
Miles of 115kV Required <sup>1</sup>	2.3 mi.	2.3 mi.	2.3 mi.	2.3 mi.	2.3 mi.	4.6 mi.	4.4 mi.	approx. 35 mi. upgraded	
Length in Refuge or Preserve; # structures	0.9mi. 6 structures	0.9 mi. 6 structures	0.4 mi. 1 structure	0.4 mi. 1 structure	2.3 mi. 13 structures	2.3 mi. Add 22 new structures; remove 26 exist. structures	0.9 mi. 6 structures	2.3 mi.	
Length of existing or proposed development crossed	2.7 mi.	2.8 mi.	3.3 mi.	4.5 mi.	0.5 mi.	0.5 mi.	3.4 mi.	approx. 15 mi.	
Length along I-880	0	0	0.7	2.8	0	0	0	0	
Cost**	230 kV Transmission	\$20.8	\$30.9	\$28.1	\$47.5	\$28.6 - mit	\$43.5 <sup>3</sup>	\$41.3	0
	Substation <sup>2</sup>	\$56.5	\$56.5	\$56.5	\$56.5	\$56.5	\$56.5	\$76.8	unknown
	Mitigation	0	0	0	0	\$10.4	\$3.0 <sup>4</sup>	0	0
	Total <sup>2</sup>	\$77.3	\$87.4	\$84.6	\$104.0	\$85.1	\$103.0 <sup>5</sup>	\$118.1	up to \$100.0

\* Data provided by PG&E Co. (except for No Project Alternative)

\*\* Cost in millions of dollars

Notes

- <sup>1</sup> Number given is for the total number of miles of 115 kV lines required to connect the alternative to the existing 115 kV system and includes rebuilding the 1.4 miles of the existing Montague to Trimble 115 kV pole line.
- <sup>2</sup> Includes costs for 115 kV lines, CPCN costs and environmental studies, allowance for funds used during construction and miscellaneous work.
- <sup>3</sup> Includes costs for a 2.3 mile 115 kV Los Esteros to Newark-Kifer/Trimble double circuit 115kV line and reconductoring 1.2 mi. of the Newark-Scott & 115 kV tower line to NRS.
- <sup>4</sup> Cost to remove 12 mi. of 115 kV lines
- <sup>5</sup> Costs are given for the Westerly Upgrade Phase 1 Alternative described in Section B.6.

In all of the comparison tables below, the environmentally superior route in each comparison is indicated for each issue area with a [ ; the second preferred route indicated with a • and the route with most impacts in each issue is marked with a , . Where there are no significant impacts, the alternative is also marked with a • .

### 5.3.1.1 *Northern 230kV Route Comparison*

Impacts of the two northern area routes are summarized in Table ES-4. In this area, the proposed route would parallel existing transmission lines and pass through the proposed Pacific Commons Preserve, and the I-880-A Alternative would pass along the eastern edge of the Preserve along I-880, turning south through the back of the business park (Northport Loop West). This alternative, and the portion of the proposed project it would replace, is illustrated in Figure B.6-2.

While each column in Table ES-4 shows the same total number of [ , , and • conclusions, the first three rows are given more weight in this analysis (as described in Section 5.2). Therefore, the I-880-A segment is environmentally superior to the northern portion of the proposed route between MP 0.0 and 2.7.

### 5.3.1.2 *Central 230kV Route Comparison: Bayside Business Park*

This central 230kV transmission line segment, illustrated in Figure B.6-3, includes the proposed route along the western margin of the business park, the Underground Alternative through the center of the business park, and the I-880-B Alternative along the eastern margin of the business park (adjacent to the I-880 freeway). Table ES-5 summarizes impacts in the central route portion, through the Bayside Business Park.

Table ES-5 shows that along the central part of the route, the I-880-B Alternative is clearly environmentally superior to both the Underground Alternative and the proposed route segment. It should be noted that, as discussed in Section C.12, Visual Resources, the Underground Alternative would be preferred over the I-880-B Alternative if Mitigation Measure V-3 were implemented. This measure would re-route the Underground Alternative so it followed the existing easterly pair of 115kV lines through the salt ponds, thereby avoiding creation of a third transmission line corridor in the area. However, even with the visual resources ranking changing from the I-880-B to the Underground Alternative, the I-880-B Alternative is still environmentally superior overall.

### 5.3.1.3 *Complete Routes*

The next comparison, presented in Table ES-6, involves evaluation of each of the above six alternative combinations with the complete route alternatives: Westerly Route Alternative and Westerly Upgrade Alternative. The Westerly Route and Westerly Upgrade Alternatives would both follow the same route, affecting the Refuge and open space through salt ponds and mitigation ponds. The proposed route, in comparison, more closely follows the western edge of the developed parts of the bay margin.

When comparing these three complete routes, the proposed route is clearly preferred due to its location in more developed areas and avoidance of most Refuge/Preserve impacts.

### **5.3.2 Substation Comparison**

The proposed Los Esteros Substation is located in an undeveloped area surrounded by agricultural land uses. The other two sites, Zanker Road and Northern Receiving Station (NRS), are south of SR 237 and in areas with more existing development (including adjacent commercial, industrial, and residential land uses). Table ES-7 summarizes the differences between impacts at the proposed and alternative substation sites.

Based on the impacts summarized in Table ES-7, the proposed Los Esteros Substation is environmentally superior to the two substation site alternatives. This is primarily because both alternatives would require longer transmission lines to reach the substation sites, and because the NRS substation would require construction of new lines in currently undeveloped areas between Los Esteros Road and First Street, southeast of Alviso.

### **5.3.3 Trimble-Montague 115kV Upgrade Comparison**

The 115kV upgrade proposed by PG&E Co. would involve installation of taller steel structures in the landscaped areas south of two busy streets: Trimble Road and Montague Expressway in the City of San Jose. The alternatives to the proposed route would involve the undergrounding of the 115kV line along the same route as proposed, and the use of a longer (2.4 mile alternative versus 1.4 mile proposed) route but following more lightly traveled roadways (Bellew Drive, Barber Lane). Table ES-8 presents the summary of impacts of the proposed and alternative 115kV upgrade projects.

The proposed 115kV upgrade along Trimble Road and Montague Expressway is preferred over the underground alternative because of the reduced construction disturbance associated with the aboveground line. Also the underground line would need to cross Coyote Creek. The Barber Alternative was found to be environmentally inferior due to its increased length and its crossing of Compton Creek in an undeveloped area with existing riparian vegetation.

### **5.3.4 No Project Alternative**

The No Project Alternative is described in Section B.7 and would result in no 230kV transmission system being added to the project area. Because, under that scenario, the area's need for increased electrical service would not be met, PG&E would most likely be forced to respond to growing demand by expanding its existing system to the extent that is possible. Such existing system upgrades would likely include re-conductoring the 115kV transmission lines (between the Newark Substation to the north San Jose area and within the San Jose/Santa Clara urban areas) and installation of additional transformers at the Newark and Metcalf Substations. As discussed in Section B.5.4 (alternatives eliminated), these improvements would add incremental increases in electric service but would not solve the longer term anticipated power

problem. The region would suffer the impacts of these upgrade projects (including construction on existing 115kV lines through the San Francisco Bay National Wildlife Refuge), and PG&E Co. would be forced to evaluate another alternative to the regional electric service problem and propose another solution to the CPUC through a subsequent application. This sequential action has the potential for greater impacts than implementation of the selected alternative.

Table ES-9 summarizes the impacts of the No Project Alternative in comparison to a new electric transmission project.

The No Project Alternative would eliminate the specific impacts associated with construction and operation of the new 230kV transmission line and substation. However, this alternative would have a different set of construction impacts associated with reconductoring, and additional projects would be required within five years due to anticipated continued growth in area demand. Based on the summaries presented in Table ES-9, the benefits of construction of a new transmission project would outweigh the associated environmental impacts.

#### **5.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE**

Determination of which of the project alternatives is environmentally superior is quite difficult and depends on many factors. In order to meet the CEQA requirements to identify an environmentally superior alternative, we primarily considered the importance of “major” issue areas that have potential long-term, widespread significant impacts (i.e., land use, biology, and visual resources). These issue areas represent the key to the alternatives comparison, as shown in Tables ES-4 through ES-9 above. Even in these issue areas, determining a superior alternative is difficult because of the tradeoffs associated with different alternatives.

##### **5.4.1 Summary of Conclusions**

**A New Transmission System vs. No Project Alternative.** As shown in Tables ES-4 through ES-9, the proposed project would result in a range of construction and operational impacts, many of which can be reduced with implementation of mitigation. However, if the proposed project or an alternative is not constructed, PG&E Co. will be forced to respond to growing demand by expanding its existing system to the extent that is possible. Such existing system upgrades would likely include re-conductoring the 115kV transmission lines from the Newark Substation to the north San Jose area, installation of additional transformers at existing substations, and other system improvements. As discussed in Section B.5.4 (alternatives eliminated), these improvements would add incremental increases in electric service but would not solve the existing and anticipated power problem. The region would have the impacts of these upgrade projects (including construction on several existing lines through the San Francisco Bay National Wildlife Refuge), and PG&E Co. would be forced to evaluate another alternative to the regional electric service problem and propose another solution to the CPUC through a subsequent application. This sequential action has the potential for greater impacts than implementation of the selected alternative.

It is possible that delaying implementation of the proposed project will result in other alternatives being formulated, or currently infeasible alternatives becoming more likely. As an example, development of a large power generation facility in the area would partially solve the transmission problem. However, a power generator may not choose to be located in the area if 230kV transmission were not available for use in exporting power to the grid.

Therefore, despite the identified impacts of the proposed project and alternatives, the No Project Alternative is not preferred.

**Proposed Project vs. Alternative Transmission Line Routes.** As explained in Sections 5.3.2 through 5.3.7 above, the following alternative segments were found to be environmentally superior:

- **Northern Segment:** The I-880-A Alternative is environmentally superior
- **Central Segment:** The I-880-B Alternative is environmentally superior
- **Entire Transmission Line Route:** Given that the proposed route itself is superior to the Westerly and Westerly Upgrade Alternatives, the combination of the southern portion of the proposed route with the I-880-A and I-880-B alternatives presents the overall environmentally superior route for the 230kV transmission line.

**Proposed Los Esteros Substation vs. Alternative Substation Sites.** The Los Esteros Substation is found to be environmentally superior to the alternative substation sites.

**Proposed Trimble-Montague 115kV Upgrade vs. 115kV Alternatives.** The proposed 115kV upgrade along Trimble Road and Montague Expressway is found to be environmentally superior to the Underground and Barber Lane alternatives.

#### **5.4.2 Illustration of the Complete Environmentally Superior Project**

Figure ES-2 illustrates the Environmentally Superior Transmission Line Route, substation location, and 115kV upgrade route. This figure illustrates the 230kV route that combines the proposed and alternative segments in a manner that reduces the impacts of the proposed project to the greatest extent feasible.

**Table ES-4 Northern Route Comparison**

Issue Areas	Proposed 230kV Route Segment	I-880-A Alternative
<b>Major Issues</b>		
<b>Biological Resources</b>	, Greater bird collision potential due to close proximity to high bird use area; crosses Preserve between MP 0.4 and 1.7. Greater habitat disturbance due to overland travel.	[ Reduced collision potential due to distance from high bird use area; follows preserve boundary. Reduced habitat disturbance due to location at edge of I-880 and within parking lots.
<b>Land Use &amp; Recreation</b>	, 2.7 miles with degradation of recreational trail experience and inconsistency with <i>Bay Plan</i> Scenic View policies	[ 1 mile with degradation of recreational trail experience and inconsistency with <i>Bay Plan</i> Scenic View policies
<b>Visual Resources</b>	[ Greater visual consistency with existing uses (4 existing transmission lines)	, Line would present new visual feature where none currently exists
<b>Minor Issues</b>		
<b>Air Quality</b>	[ Less construction emission (construction of one less structure)	, More construction emissions (construction of one more structure than proposed segment)
<b>Cultural Resources</b>	• Low potential for affecting unrecorded resources	• Low potential for affecting unrecorded resources
<b>Geology &amp; Soils</b>	, 2.7 miles of liquefiable and corrosive soils	[ 2.4 miles of liquefiable soils
<b>Hydrology &amp; Water Quality</b>	, Construction across 3 surface water bodies (Seasonal Wetland, Salt Ponds A22-A23, Laguna Creek) could cause sedimentation; 14 tower sites could affect groundwater quality and hydrology	[ Construction across 2 surface water bodies (Salt Ponds A22-A23, Laguna Creek) could cause sedimentation; 12 tower sites could affect groundwater quality and hydrology
<b>Noise</b>	[ No noise receptors near transmission line	, Involves construction adjacent to light industrial developments, numerous high technology office buildings, and the California Highway Patrol
<b>Socioeconomics &amp; Public Services</b>	[ No impacts	, Construction in parking lots behind business park on Northport Loop West
<b>Transportation</b>	[ Transmission lines would cross Auto Mall Parkway but have no other transportation effects	• Construction behind business park would have slightly greater access impacts

- [ Alternative has fewer environmental impacts
- , Alternative has more environmental impacts
- Alternative has intermediate level of impacts or has no significant impacts.

**Table ES-5 Central Route Comparison**

Issue Areas	Proposed 230kV Route Segment	Underground Alternative	I-880-B Alternative
<b>Major Issues</b>			
<b>Biological Resources</b>	, Crosses high bird use area between MP 1.7 and 2.7. Close proximity to high bird use area between mile post 2.7 and 4.1.	• Crosses high bird use area between MP 1.7 and 2.7.	[ Remote from high bird use area
<b>Land Use &amp; Recreation</b>	• Occupants of apx. 21 buildings most affected; parking spaces clustered around 7 tower locations displaced; No interference w/trucking	, Occupants of apx. 34 buildings most affected; Spaces taken within ROW of apx. 1.4 miles of alignment; Interference w/trucking during construction	[ Occupants of apx. 16 buildings most affected; parking spaces clustered around 4-5 tower locations displaced; no interference w/trucking
<b>Visual Resources</b>	, Visual intrusion along Bay margin where no lines currently exist	• Approach to underground segment through salt ponds and open space is visually intrusive	[ Visual impact maintained adjacent to freeway and out of open space
<b>Minor Issues</b>			
<b>Air Quality</b>	[ Involves construction of two less structures compared to the I-880-B Alternative	, Would involve more excavating activities compared to the proposed route and the I-880-B Alternative	• Involves construction of two more structures compared to the proposed route
<b>Cultural Resources</b>	• Low potential for affecting unrecorded resources	, Greater potential for affecting unrecorded resources due to trenching	• Low potential for affecting unrecorded resources
<b>Geology &amp; Soils</b>	• 2.6 miles of corrosive soils; 2.6 miles of liquefiable soils, greater potential along levee; 1.1 miles of soils with potential for differential settlement crossed	, 1.7 miles of corrosive soils trenched + 1.1 miles of corrosive soils crossed; 1.7 miles of liquefiable soils trenched + 1.1 miles of liquefiable soils and those with settlement potential soils crossed	[ 2.0 miles of corrosive soils; 3.4 miles of liquefiable soils, (lower potential in disturbed soils along I-880); 1.2 miles of soils with potential for differential settlement crossed
<b>Hydrology &amp; Water Quality</b>	[ 13 towers could affect groundwater quality and hydrology; no surface water bodies	, Potential disturbance due to shallow groundwater along trenching path; no surface water bodies	• 16 towers (estimated) could affect groundwater quality and hydrology crosses Laguna Creek, tower footings encroach upon Fremont Flood Control Channel
<b>Noise</b>	• Involves construction, potentially including pile-driving, at pole sites adjacent to the Bayside Business Park	, Involves trenching and more major/continuous construction through Bayside Business Park	[ Involves construction adjacent to businesses and commercial operations but adjacent to I-880 where existing noise levels are high
<b>Socioeconomics &amp; Public Services</b>	, Potential impacts on businesses closest to line	[ Fewer business impacts due to underground line	• Moderate impacts on business park occupants
<b>Transportation</b>	[ Fewest road and traffic impacts	, Trenching through the business park could disrupt traffic for greater duration; larger workforce	• Potential effects on Caltrans interchange plans; construction along roadways in business park

- [ Alternative has fewer environmental impacts
- , Alternative has more environmental impacts
- Alternative has intermediate level of impacts or has no significant impacts.

**Table ES-6 Complete 230kV Route Comparison**

Issue Areas	Proposed 230kV Route	Westerly Route Alternative	Westerly Upgrade Alternative
<b>Major Issues</b>			
<b>Biological Resources</b>	[ Adjacent to 3.2 miles and crosses 2.9 miles of high bird use areas; Crosses 0.2 miles of salt marsh and 0.8 miles of salt ponds	• Crosses 5.1 miles of high bird use areas; Crosses 2.2 miles of salt pond, is adjacent to 1.3 miles of salt pond, and is adjacent to or crosses 1.5 miles of salt/brackish marsh	, Same as Westerly Route except that construction of new towers and removal of others increases habitat disturbance
<b>Land Use &amp; Recreation</b>	[ Visual degradation along apx. 5.7 miles of trail and 4.1 miles visual intrusion incompatible with Bay Plan	, Visual degradation along apx. 6.9 miles of trail; More than 6 miles of visual incompatibility	• Visual degradation along apx. 6.3 miles of trail; More than 6 miles of visual incompatibility
<b>Visual Resources</b>	[ Route closer to developed areas	• Additional visual intrusion through Refuge and open space	, More severe visual intrusion due to installation of 2 new lines with taller structures
<b>Minor Issues</b>			
<b>Air Quality</b>	• Construction impacts from 39 structures	[ Construction impacts from between 36 and 40 structures	, Construction impacts at between 68 to 72 structures
<b>Cultural Resources</b>	• Low potential for affecting unrecorded resources	• Low potential for affecting unrecorded resources	• Low potential for affecting unrecorded resources
<b>Geology &amp; Soils</b>	[ 5.8 miles of liquefiable soils and soils with potential for differential settlement; 2.8 miles of corrosive soils	• 7 miles of liquefiable soils and soils with potential for differential settlement; 6.1 miles of corrosive soils	, 7 miles of liquefiable soils and potential for differential settlement, twice as many structures; 6.1 miles of corrosive soils
<b>Hydrology &amp; Water Quality</b>	[ Does not cross Salt Pond A19, no levee at Coyote Creek crossing. Avoids Salt Ponds, Landfill, and Coyote Creek Flood Bypass. Fewer tower locations in Salt Ponds.	• Potential impacts at levee crossings; Crosses Salt Ponds A19- A18, Newby Island Landfill, and Coyote Creek Flood Bypass; more tower locations in Salt Ponds	, Same impacts as Westerly Route but with twice as many towers installed.
<b>Noise</b>	• Involves construction adjacent to the Bayside Business Park	[ No sensitive noise receptors adjacent	, Construction adjacent to single-family residences
<b>Socioeconomics &amp; Public Services</b>	• Businesses would be affected in a few locations	[ Minimal or no impacts	[ Minimal or no impacts
<b>Transportation</b>	, Potential for minor impacts at Dixon Landing Road crossing	• Potential for minor impacts during construction along Los Esteros/Zanker Roads	• Potential for minor impacts during construction along Los Esteros/Zanker Roads

- [ Alternative has fewer environmental impacts
- , Alternative has more environmental impacts
- Alternative has intermediate level of impacts or has no significant impacts.



**Table ES-7 Substation Comparison**

Issue Areas	Proposed Los Esteros Substation	NRS Substation	Zanker Road Substation
<b>Major Issues</b>			
<b>Biological Resources</b>	[ Shortest new line construction (to MP 7.2). Existing ruderal upland/greenhouse site has low wildlife value.	, New line construction from MP 7.2 (3.1 additional miles) is in area of low bird use, but would cross 200 feet of wetlands/open water at Guadalupe River crossing. Ruderal upland is undeveloped; provides low to moderate wildlife habitat value	• New line construction from MP 7.2 (1.0 additional mile) along Zanker Road is in area of low bird use; existing agricultural site has potential burrowing owl habitat and foraging
<b>Land Use &amp; Recreation</b>	, Apx. 23 acres converted; Apx. 0.5 mile of alignment affects adjacent fields; four residences displaced	[ No loss of agricultural land; no adjacent fields affected; no residences displaced	• No loss of agricultural land; Apx. 0.6 mile of alignment affects adjacent fields; Four residences displaced
<b>Visual Resources</b>	[ Isolated site adjacent to WPCP; shortest transmission line route	• Additional transmission lines required in new corridor north of SR 237	• Crossing of SR237 would be highly visible
<b>Minor Issues</b>			
<b>Air Quality</b>	, Construction of the proposed substation would involve demolition of onsite buildings	[ No building demolition required; however requires construction of an additional transmissions line	• Construction of the Zanker Road Substation would not involve demolition activities or construction of an additional transmission line.
<b>Cultural Resources</b>	• Low potential for affecting unrecorded resources	, Low potential for encountering unrecorded resources at substation site; moderate to high potential for unrecorded resources along transmission line; Moderate potential to affect recorded resources along transmission line route	• Low potential for affecting unrecorded resources
<b>Geology &amp; Soils</b>	, 24 acres agricultural soils converted; 800 feet from free face (Coyote Creek); 0 feet to potentially active fault (crosses site)	[ No agricultural land converted; 1000 feet from free face (Saratoga Creek); 8500 feet to potentially active fault	• No agricultural land converted. 500 feet from free face (Coyote Creek); 1000 feet west, 1700 feet east to potentially active fault
<b>Hydrology &amp; Water Quality</b>	[ Potential contamination due to past agricultural land-use of site; Moderate potential for sediment loading and surface water contamination	, Tower construction required along 4.4 mi of transmission line; Higher potential due to additional 4.4 mi of transmission line and associated towers	• Potential contamination due to neighboring transportation facility; Moderate potential for sediment loading and surface water contamination
<b>Noise</b>	[ There are no sensitive noise receptors adjacent to the proposed Los Esteros Substation	, Site/transmission line adjacent to single-family residential developments in Santa Clara and Alviso	• Adjacent to office buildings, a mobile home park, and a Cisco Systems Office Campus
<b>Socioeconomics &amp; Public Services</b>	• No impact on Cerone Bus Yard	• No impact on Cerone Bus yard	• Impact existing bus yard and future expansion possibly precluded
<b>Transportation</b>	[ Minimal traffic impacts	, Crossing of SR 237, North 1 <sup>st</sup> Street, Los Esteros Road	• Construction over SR 237 and along Zanker Road

- [ Alternative has fewer environmental impacts
- , Alternative has more environmental impacts
- Alternative has intermediate level of impacts or has no significant impacts.

**Table ES-8 115kV Upgrade Comparison**

Issue Areas	Proposed 115kV Route	Barber Lane Alternative	Underground Alternative
<b>Major Issues</b>			
<b>Biological Resources</b>	<ul style="list-style-type: none"> <li>New line is in low bird use area in developed area; no wildlife impacts</li> </ul>	<ul style="list-style-type: none"> <li>New line is in low bird use area, but is longer than other alternatives in developed area; no wildlife impacts</li> </ul>	<ul style="list-style-type: none"> <li>No bird collision impacts; underground in developed area; no wildlife impacts</li> </ul>
<b>Land Use &amp; Recreation</b>	<ul style="list-style-type: none"> <li>Construction impacts from Apx. 1.4 miles of alignment (tower locations only)</li> </ul>	<ul style="list-style-type: none"> <li>Apx. 2.4 miles of alignment (tower locations only)</li> </ul>	<ul style="list-style-type: none"> <li>Construction noise and dust from apx. 1.4 miles of trenching</li> </ul>
<b>Visual Resources</b>	<ul style="list-style-type: none"> <li>Increased line visibility over existing wood poles</li> </ul>	<ul style="list-style-type: none"> <li>Longer line requiring construction in area with no lines</li> </ul>	<ul style="list-style-type: none"> <li>Underground line would have no visual impacts</li> </ul>
<b>Minor Issues</b>			
<b>Air Quality</b>	<ul style="list-style-type: none"> <li>Apx. 1.4 miles of alignment (tower locations only)</li> </ul>	<ul style="list-style-type: none"> <li>Apx. 2.4 miles of alignment (tower locations only)</li> </ul>	<ul style="list-style-type: none"> <li>Apx. 1.4 miles of alignment (continuous construction requiring more equipment)</li> </ul>
<b>Cultural Resources</b>	<ul style="list-style-type: none"> <li>Moderate potential to affect recorded and unrecorded resources</li> </ul>	<ul style="list-style-type: none"> <li>Moderate potential to affect unrecorded resources; low potential for recorded resources</li> </ul>	<ul style="list-style-type: none"> <li>Moderate potential to affect recorded and unrecorded resources due to trenching</li> </ul>
<b>Geology &amp; Soils</b>	<ul style="list-style-type: none"> <li>Crosses creek once, along paved road; crosses one fault, possibly two</li> </ul>	<ul style="list-style-type: none"> <li>Crosses creek once, along unpaved levee; crosses one fault</li> </ul>	<ul style="list-style-type: none"> <li>Crosses creek once, (most likely bored beneath Coyote Creek; crosses one fault, possibly two (underground)</li> </ul>
<b>Hydrology &amp; Water Quality</b>	<ul style="list-style-type: none"> <li>Crosses Coyote Creek at existing Montague bridge crossing, crosses urbanized floodplain; Fewer towers required (less impact on surface and ground water)</li> </ul>	<ul style="list-style-type: none"> <li>Additional crossing of Coyote Creek required at wider creek location, crosses undeveloped floodplain. More towers required (increased potential for surface water sedimentation and groundwater quality degradation)</li> </ul>	<ul style="list-style-type: none"> <li>Bored crossing of Coyote Creek; 1.4 miles of trenching spoils and potential groundwater interference</li> </ul>
<b>Noise</b>	<ul style="list-style-type: none"> <li>Apx. 1.4 miles of alignment (all above ground)</li> </ul>	<ul style="list-style-type: none"> <li>Apx. 2.4 miles of alignment (all above ground) adjacent to many noise receptors</li> </ul>	<ul style="list-style-type: none"> <li>Apx. 1.4 miles of alignment requiring trenching and re-paving</li> </ul>
<b>Socioeconomics &amp; Public Services</b>	<ul style="list-style-type: none"> <li>No significant impacts</li> </ul>	<ul style="list-style-type: none"> <li>No significant impacts</li> </ul>	<ul style="list-style-type: none"> <li>Underground construction could affect existing buried utilities; minor disruption to emergency vehicles</li> </ul>
<b>Transportation</b>	<ul style="list-style-type: none"> <li>Shorter construction but adjacent to much busier streets</li> </ul>	<ul style="list-style-type: none"> <li>Longer construction, but adjacent less-utilized city streets</li> </ul>	<ul style="list-style-type: none"> <li>Underground construction in busy roadways</li> </ul>

- [ Alternative has fewer environmental impacts
- , Alternative has more environmental impacts
- Alternative has intermediate level of impacts or has no significant impacts.

**Table ES-9 No Project Alternative Compared to Proposed Project and Environmentally Superior Alternative**

Issue Areas	No Project Alternative	Proposed Project	Environmentally Superior Alternative
<b>Major Issues</b>			
<b>Biological Resources</b>	, Transmission line upgrades would likely be required along several lines through Refuge and along bay margins, increasing surface habitat disturbance.	• New line would be installed in high bird use areas. Loss of habitat in northerly 3 miles.	[ Reduced collision potential due to distance from high bird use area; reduced habitat disturbance due to location at edge of I-880 and within parking lots.
<b>Land Use &amp; Recreation</b>	, No loss of agricultural lands, but impacts of system upgrades and associated ongoing impacts to Refuge and recreation areas would outweigh impacts of proposed project. Fewer business impacts. Local policies support provision of adequate electricity to serve growth.	• Recreation impacts and loss of agricultural land. Most businesses affected.	[ Recreation impacts and loss of agricultural land. Business occupants affected by construction. Greater consistency with plans and policies.
<b>Visual Resources</b>	[ System upgrades would be less visually intrusive than a new line and substation	, Visual intrusion along Bay margin where no lines currently exist	• Northern segment would present new visual feature where none currently exists. Central section visual impact maintained adjacent to freeway and out of open space
<b>Minor Issues</b>			
<b>Air Quality</b>	, Construction impacts from longer term activities related to dispersed system upgrades	• Construction impacts from 7.4 miles of lines (39 structures) and new substation	[ Shorter route (7.0 miles) would result in fewer impacts
<b>Cultural Resources</b>	[ Less potential for disturbance of recorded or unrecorded resources	• Low potential for affecting unrecorded resources	• Low potential for affecting unrecorded resources
<b>Geology &amp; Soils</b>	• Less potential for adding new structures to unstable or corrosive soils, but older lines (less structurally sound) would have increased use	• 5.8 miles of liquefiable soils and soils with potential for differential settlement; 2.8 miles of corrosive soils	[ Lower potential for liquefaction in disturbed soils along I-880)
<b>Hydrology &amp; Water Quality</b>	[ System upgrades would have less impact on surface and groundwater than installation of 39 new poles	, More disturbance of surface and groundwater; potential for erosion and groundwater contamination	• Reduced potential for hydrologic disturbance due to greater distance from Bay
<b>Noise</b>	[ Elimination of pile-driving and most significant construction activities	• Involves construction adjacent to the Bayside Business Park	• Involves construction adjacent to the Bayside Business Park
<b>Socioeconomics &amp; Public Services</b>	, Reduced construction impacts on business parks	, Moderate impacts on businesses	• Higher baseline noise levels so impacts would be less severe
<b>Transportation</b>	[ Minor impacts to area roadways and traffic during construction/system upgrades	• Potential for minor impacts at Dixon Landing Road crossing	, Potential impacts on I-880 and planned construction

- [ Alternative has fewer environmental impacts
- , Alternative has more environmental impacts
- Alternative has intermediate level of impacts or has no significant impacts.

## 6. MITIGATION MONITORING, COMPLIANCE, AND REPORTING

As the lead agency under CEQA, the CPUC is required to monitor this project during construction and operation to ensure that the required mitigation measures are implemented. The CPUC will be responsible for ensuring full compliance with the provisions of this monitoring program and has primary responsibility for implementation of the monitoring program. The purpose of the monitoring program is to document that the mitigation measures required by the CPUC are implemented and that environmental impacts are reduced to the level identified in the Program. A detailed Implementation Plan will be developed and provided to local jurisdictions for review before it is finalized. Monitoring of mitigation measures within each jurisdiction will be coordinated with that jurisdiction.

A Mitigation Monitoring Program table is included at the end of each issue area's Environmental Analysis in Part C (C.2 - C.12). For each mitigation measure, these tables list:

- The impact that was identified
- The mitigation measure (in summary)
- The location of the impact
- The monitoring action that would be taken by the CPUC or other responsible agency
- How to determine if the measure is effective
- The agency (or agencies) responsible for monitoring
- The timeframe for mitigation measure implementation.

## 7. IMPACT SUMMARY TABLE

The Impact Summary Table (Table ES-10) that follows is a complete, condensed presentation of the significant environmental impacts and mitigation measures for the proposed Northeast San Jose Transmission Reinforcement Project and project alternatives. Full descriptions of the proposed project and each of the alternatives can be found in Part B of the EIR. The complete environmental analyses, along with the recommended mitigation measures for the proposed project and for each of the alternatives, are set out fully in Part C of the EIR.

The Impact Summary Table is organized first according to impact class and within each class according to issue area in the same order as presented in Part C of the EIR and in Section 4 of this Executive Summary. Reading from left to right across the table, (1) each impact is described briefly, (2) the phase of the project life in which the impact would occur is given<sup>1</sup>, and (3) the mitigation measure(s) is presented. When no mitigation measure is specified, this is indicated. In-depth discussion of the three summary areas on the tables is located within Part C of the EIR. The table summarizes the significant impacts (Class I, II, III, and IV); Part C of the EIR presents a detailed description of these impacts.

Table ES-10, the Impact Summary Table, comprises a stand-alone document and may be viewed as a convenient compilation of the core data presented in the EIR.

---

<sup>1</sup> C: Construction O: Operation