
APPENDICES

- 1. Glossary/Abbreviations
List of Preparers and Their Qualifications
Draft EIR Distribution List**
- 2. Notice of Preparation and Initial Study**
- 3. Land Use Policy Consistency Analysis**
- 4. Summary of Underground Transmission Line Technology**

APPENDIX 1.

Glossary/Abbreviations

List of Preparers and Their Qualifications

Draft EIR Distribution List

APPENDIX 1

GLOSSARY AND ABBREVIATIONS

100-Year Flood

A stream flow caused by a discharge that is exceeded, on the average, only once in 100 years. A 100-year flood has a 1% chance of occurrence in any given year.

AAQS

Ambient Air Quality Standard; a federal and state measure of the level of air contamination that is not to be exceeded in order to protect human health.

ABAG

Association of Bay Area Governments.

ac

auxiliary alternating current.

ACE

Assessment of Chemical Exposure.

ac-ft

Acre foot; a unit of measure for water demand and supply. The volume of 1 acre foot would cover 1 acre to a depth of 1 foot and is equal to 325,851 gallons.

ACHP

U.S. Advisory Council on Historic Preservation.

ACSR

Aluminum Conductor, Steel Reinforced.

ADT

Average Daily Traffic; number of vehicles traveling per normal day on a roadway.

Aerosol

Wet or dry small particles in the atmosphere. Also called "particulate matter."

Aggradation (Of a Stream Channel Bed)

Raising of stream bed elevation, caused by sediment supply in excess of sediment-transport capacity.

Air Quality Standard

The specified average concentration of an air pollutant in ambient air during a specified time period, at or above which level the public health may be at risk; equivalent to AAQS.

Algae

A collective term for several taxonomic groups of primitive chlorophyll-bearing plants which are widely distributed in fresh and salt water and moist lands. This term includes the seaweeds, kelps, diatoms, pond scums, and stoneworts.

Ambient Air

Any unconfined portion of the atmosphere; the outside air.

Ambient Noise Level

Noise from all sources, near and far. ANL constitutes the normal or existing level of environmental noise at a given location.

ANSI

American National Standards Institute.

APCD

Air Pollution Control District; a regional government bureau responsible for attainment and management of air quality standards through permitting and regulating of the emission sources.

APEFZ

Alquist-Priolo Earthquake Fault Zone

APM

Applicant proposed measure.

APN

Assessor Parcel Number, given to a parcel, or a specified area, of land by County tax assessors.

AQAP

Air Quality Attainment Plan; equivalent to Air Quality Management Plan (AQMP), which outlines rules and regulations for improving and maintaining the quality of air in the region.

ARB

Air Resources Board.

ASME

American Society of Mechanical Engineers.

ASTM

American Society for Testing Materials.

ATC

Authority to Construct. A permit required by local air quality regulatory agencies before construction of a major emission source is started.

Atmospheric Stability

The resistance to or enhancement of vertical and horizontal air movement, which regulates the amount of air exchange and affects pollution concentration or dispersion.

Average

As a measure, the sum of the measurements (over a specified period) divided by the number of measurements.

Avifauna

Birds.

A-Weighting

A frequency measure of noise which simulates human perception.

B.P.

Before Present.

BAAQMD

Bay Area Air Quality Management District.

Backfill

Earth that is replaced after a construction excavation.

Backhoe

A self propelled machine with an arm equipped with a toothed shovel that scoops earth as the shovel is pulled toward the machine.

BACT

Best Available Control Technology; the most improved devices or air emission reduction technology currently available for controlling pollutant emissions.

Baseline

A set of existing conditions against which change is to be described and measured.

BCDC

Bay Conservation and Development Commission.

Berm

A narrow shelf, path, or ledge typically at the top or bottom of a slope; also, an earthen, mounded wall.

Biota

Living organisms.

BMP

Best Management Practice.

BOD

Biological Oxygen Demand; the free oxygen-removing capability of biologically derived materials in the environment.

Brackish

Pertaining to water, generally estuarine, in which the salinity ranges from 0.5 to 17 parts per thousand by weight.

Btu

British thermal unit, a measurement of energy, the amount of energy that can be obtained as heat by combusting approximately 1/1000 cubic feet of natural gas.

CAAQS

California Ambient Air Quality Standard; see AAQS.

CAL OSHA

California Occupational Health and Safety Administration

Caltrans

California Department of Transportation.

CAPCOA

California Air Pollution Control Officers Association.

CARB

California Air Resources Board, sometimes abbreviated as ARB.

Cargill

Cargill Salt Company.

Cathodic protection

An anticorrosion technique for metal installations; pipelines, tanks, and buildings in which weak electric currents are established to offset the current associated with metal corrosion.

Cathodic protection rectifier

The rectifier converts alternating current power supply into direct current output. This output is connected to a buried anode which produces an electrical current through the soil and into the pipeline, which is thus placed under cathodic protection.

CCAA

California Clean Air Act.

CCD

Census County Division.

CCR

California Code of Regulations.

CDF

California Department of Forestry and Fire Prevention.

CDFG

California Department of Fish and Game.

CDMG

California Division of Mines and Geology.

CEC

California Energy Commission .

CEQA

California Environmental Quality Act.

CFR

U.S. Code of Federal Regulations.

cfs

cubic feet per second.

Channel Lining

Artificial hardening of the sides and/or bed of a stream channel to prevent erosion. Concrete, soil cement and rock riprap are typical channel linings.

Class I

Significant; cannot be mitigated to a level that is not significant (in regards to environmental impacts).

Class II

Significant; can be mitigated to a level that is not significant (in regards to environmental impacts).

Class III

Adverse, but not significant (impact).

Class IV

Beneficial impacts.

CNDDB

California Natural Diversity Data Base

CNEL

Community Noise Equivalent Level; the averaging of noise levels on a measurement scale of decibels that increases the actual noise measurement, to account for an increased sensitivity to noise during late evening, nighttime, and morning hours (the increments are 5 dB from 7 to 10 pm and 10 dB from 10 pm to 7 am).

CNPS

California Native Plant Society.

CO

Carbon Monoxide; a colorless, odorless, toxic gas produced by incomplete combustion of carbon in fossil fuels.

COD

Chemical Oxygen Demand; the free oxygen-removing (combining) capability of chemical substances in liquid.

Concentration

The relative content of a component (as dissolved or dispersed material) and measured by weight or volume of material per unit of volume of the medium.

Concentration, average

The average of a series of measurements of concentration.

Concentration, maximum

The highest individual or average measurement of concentration.

Control Area

A portion of the interconnected electricity system grid whose operations and procedures are controlled and managed by a single utility. This utility typically owns most of the facilities in its control area and is responsible for the physical interaction with neighboring control areas.

Control panel

An assembly of indicators and recording instrument; pressure gauges, warning lamps, and other visual or audible signals for monitoring and controlling a system.

Corrosivity

Is an estimate of the potential for soil-induced chemical action that dissolves or weakens uncoated shell.

CPCN

Certificate of Public Convenience and Necessity.

CPR

Cardiac/pulmonary resuscitation.

CPUC

California Public Utilities Commission.

CRHR

California Register of Historical Resources.

CRMP

Cultural Resource Management Plan.

CSC

California Species of Concern.

Cultural Resource

Places or objects important for scientific, historical, and religious reasons to cultures, communities, and individuals.

CWA

Clean Water Act.

Cyclonic

An large air mass circulating counterclockwise, in northern hemisphere.

dBA

The A-weighted decibel scale representing the relative insensitivity of the human ear to low-pitched sounds; decibels are logarithmic units that compare the wide range of sound intensives to which the human ear is sensitive.

dc

direct current.

Decibel (Db)

A logarithmic unit which measures the pressure levels of sounds.

DEIR

Draft Environmental Impact Report (see EIR).

Diffusion model

A model, calculated by formula, graphs, or computer, that estimates the dilution of an air pollutant as it is carried downwind. The models are based on physical principles with various simplifications to aid solvability.

DOI

U.S. Department of the Interior; a federal Department that includes the following agencies: BLM, USFWS, Bureau of Mines, Bureau of Reclamation, etc.

DOT

U.S. Department of Transportation.

DRA

(CPUC's) Division of Rate Payers Advocates; now Office of Rate Payers Advocates (ORA).

DSM

Demand Side Management, for example, home insulation, energy efficient appliances, etc.

DWR

California Department of Water Resources.

ECP

Erosion Control Plan.

EDD

(California) Employment Development Department.

EIR

Environmental Impact Report; an environmental impact assessment document prepared in accordance with the California Environmental Quality Act (CEQA).

EIS

Environmental Impact Statement; an environmental impact in accordance with the National Environmental Policy Act (NEPA).

EIR/S

Environmental Impact Report and Statement, prepared as a single document for submission to both the state and federal governments and for public review. See EIR.

EMF

Electric and Magnetic Field.

Emission

Unwanted substances released by human activity into air or water.

Emission, primary

An emission that is treated as inert (non-reactive).

Emission, secondary

Unwanted substances that are chemical byproducts of reactive primary emissions.

Emission Control Device

Any piece of equipment that reduces the release of any air pollutant into the atmosphere; see BACT.

Emission Limit

A regulatory standard that restricts the discharge of an air pollutant into atmosphere.

EPA

U.S. Environmental Protection Agency; a federal agency that works to protect the environment.

EQAP

Environmental Quality Assurance Program; a generic term for mitigation monitoring.

ERP

Electric Resource Plan, required by the Public Service Commission of Nevada every three years.

ESH

Environmentally Sensitive Habitat; an area designated by governmental agencies as requiring special administration or protection.

ESHA

Environmentally Sensitive Habitat Area; an area designated by governmental agencies as requiring special administration or protection.

Estuary

Widening area at seaward end of river where its current is met and influenced by ocean tides.

Ethnohistoric

Ethnological information collected during historic times, for instance, that from the Spanish mission registers.

Export Capability

The capacity or extent to which a utility or electric control area can sell electric power outside its electric system at a given time or during a given set of conditions using all available facilities.

Fault

A fracture or zone of fractures in rock strata which have undergone movement that displaces the sides relative to each other, usually in a direction parallel to the fracture. Abrupt movement on faults is a cause of most earthquakes.

fbg

feet below grade.

FCC

Federal Communication Commission.

FEIR

Final Environmental Impact Report. The Final EIR includes all comments made to the Draft EIR as well as the responses of the proposer to those comments and is submitted to the state government and the public for review of a proposed project.

FEIR/S

Final Environmental Impact Report/Statement; last version of document submitted to both state and federal governments. See FEIR.

FEMA

Federal Emergency Management Agency.

FERC

Federal Energy Regulatory Commission.

Firm Purchases

Contractual procurement of electric energy which is intended to have assured availability to the customer.

Flora

Plants or plant life.

FRA

Federal Railway Administration.

Fugitive dust

Airborne pulverized soil particles.

FTE

Full-time equivalent.

g

(a) gram; (b) gravities, a unit of acceleration equal to that produced on free falling bodies at the earth's equator.

General Scour

Degradation of a channel bed as a result of imbalance of channel sediment-transport capacity and supply during a single stream flow.

Generation

The production of electricity from other forms of energy such as combustion, falling water or thermal transfer.

Generation Capacity

Maximum electric production limit for which a generator is rated. The maximum limit fluctuates with changes in temperature or other environmental circumstances, depending on the type of machine.

GIS

Geographic Information System.

gpd

Gallons per day; a measure of flow rate.

gWh

Gigawatt-hour; A measure of electric energy. One million kilowatt-hours.

Hazard Index

The estimated exposure to a given substance being discharged from a facility divided by the acceptable exposure level for that substance summed over all pollutants.

HC

Hydrocarbons; a mixture of hydrocarbon compounds usually referred to in the vapor state.

Herpetofauna

Biological term for reptiles.

Herpetologist

Person who studies reptiles.

High flow

High volumes of water, as into an estuary, produced by copious runoff after period of heavy rainfall.

HMA

Housing Market Area; see Socioeconomics.

Horsepower

A unit of power equivalent to 33,000 foot-pounds per minute or 745.7 watts of electricity.

Hydrocarbons, nonmethane

Mixture or concentration of hydrocarbons with the methane fraction ignored. One of many formulations for reactive hydrocarbons.

Hydrocarbons, reactive

Mixture or concentration of hydrocarbons with fraction assumed to be nonreactive removed from consideration. See VOC.

Hz

Hertz.

Import Capability

The capacity or extent to which a utility or electric control area can purchase electric power from outside its electric system at a given time or during a given set of conditions using all available facilities.

Imports

The purchase of electricity by a utility from another utility outside its electric system.

Inventory, emission

A list of daily or annual emissions, listed by pollution source category (e.g., trains, refineries, agriculture, etc.).

Inversion

A layer of air in the atmosphere in which the temperature increases with altitude at a rate greater than normal (adiabatic). Pollutants tend to be trapped below the inversion.

Invertebrate

Animals that lack a spinal column.

IPP

Intermountain Power Project

IPPs

Independent Power Producers.

ISCST

Industrial Source Complex (short term); an EPA-approved computer air quality module.

ISO

Independent System Operator.

Isobath

Contour line that is at equal depth along its length.

kcmil

thousand circle mils; refers to wire size.

km²

Square kilometer.

KOP

Key Observation Point; one or a series of points on a travel route or at a use area where the view of the proposed project would be most revealing.

kV

Kilovolt. A measure of electric voltage, one thousand volts.

KVPs

key viewpoints.

Kwh

Kilowatt hour.

L₁₀

An average of noise levels that are exceeded 10 percent of the time during the measurement period.

L_{eq}

Average level of sound determined over a specific period of time.

L_{dn}

The average ambient noise level in dBA with levels between 10 p.m. and 7 a.m. increased by 10 dBA.

Lateral Erosion

Horizontal movement of a channel bank, or channel widening, caused by water-transport of bank material.

Lead Agency

For the proposed Northeast San Jose Transmission Reinforcement Line Project, the CPUC is the State Agency.

Liquefaction

The process of making or becoming liquid (soils).

LFZ

Likely Fault Zone.

Load Centers

Major areas of electricity consumption such as large cities or large industrial facilities.

Local Scour

Lowering of a channel bed as a result of a local disturbance to flow, such as bridge piers, a sudden drop or a sharp channel bend.

LOS

Level of Service; a measure of roadway congestion, ranging from A (free flowing) to F (highly congested).

Low flow

Low rate of water flow due to scant rainfall and low runoff.

Low-Flow Incisement

Formation of a local, small channel inside a larger stream channel as a result of low-discharge flows.

LUST

Leaking underground storage tank.

m

Meter, length equal to 30.48 inches.

Macroinvertebrate

Pertaining to invertebrates that are visible to the naked eye.

Macroalgae

Pertaining to large algae, such as kelp, as distinguished from microscopic algae.

Median

The mid-value is a series of values, with half having greater value and half lower value. To be distinguished from "average."

MEI

Maximum Exposed Individual; see Air Quality.

MGD

Million gallons per day.

Microclimate

Distinctive climate within a small geographic area.

Micron

One millionth of a meter.

Microwave

Radio communications which are of sufficiently short wavelength (or high frequency) as to be focused on a line-of-sight between sending and receiving equipment. These radio signals carry information for control purposes.

Milligauss (mG)

Measurement of magnetic field strength.

Mixing height

The distance from the ground to a daytime (temperature) inversion layer.

MMI

Modified Mercalli Intensity (scale); subjective numerical index describing the severity of an earthquake in terms of its observed effects on humans, man-made structures, and the earth's surface.

Monitoring station

A mobile or fixed site equipped to measure instantaneous or average ambient air pollutant concentrations.

MP

Milepost.

Multipathway Pollutants

Pollutants that pose a risk to public health through individual inhalation, ingestion (from food, water, or soil) or dermal absorption.

MW

Megawatt; a measure of electric power. One thousand kilowatts or one million watts.

Mw

moment magnitude; measurement by which earthquakes are measured.

MWD

Metropolitan Water District.

NAAQS

National Ambient Air Quality Standards; see AAQS.

NACE

National Association of Civil Engineers.

NAHC

Native American Heritage Commission.

Native Generation

Electricity generation within a utilities service area.

NDOT

Nevada Department of Transportation.

NEPA

National Environmental Policy Act.

NERC

National Electric Reliability Council.

NESC

National Electrical Safety Code.

Nevada AAQS

Nevada Ambient Air Quality Standards.

NHPA

National Historic Preservation Act.

NGVD

Nitrogen oxides

A gaseous mixture of nitric oxide (NO) and nitrogen dioxide (NO₂) and symbolically represented as NO_x.

NO

Nitric oxide. A molecule of one nitrogen and one oxygen atom. Results usually from combustion of organic substances containing nitrogen and from recombination of nitrogen decomposed in air during high temperature combustion.

NO₂

Nitrogen Dioxide. A molecule of one nitrogen and two oxygen atoms. Result usually from further oxidation of nitric oxide (NO) in the atmosphere. Ozone accelerates the conversion.

NO_x

Nitrogen Oxides; poisonous and highly reactive gases produced when fuel is burned at high temperatures, causing nitrogen in the air to combine with oxygen.

Noise level, median

The level of noise exceeded 50 percent of the time. Usually specified as either the daytime or the nighttime median noise level. Also given the designation L₅₀.

Non-firm Purchases

Electric energy purchases having limited or no assured availability.

Non-utility Owned Generation

Generation which is possessed by a entity not in the business for the sale of electricity at retail.

NOP

Notice of Preparation.

NPDES

National Pollutant Discharge Elimination System.

NPP

Northwest Power Pool.

NPPA

Native Plant Protection Act.

NRHP

National Register of Historic Places.

NRS

Northern Receiving Station.

NSR

New Source Review; see Air Quality.

NWR

National Wildlife Refuge.

O₃

Ozone; a colorless gas formed by a complex series of chemical and photochemical reaction of reactive organic gases, principally hydrocarbons, with the oxides of nitrogen, which is harmful to the public health, the biota and some materials.

OES

Office of Emergency Services.

OHV

Off-Highway Vehicle.

ORV

Off-Road Vehicles.

OSF&G

Open Space, Forestry, and Grazing.

OSHA

U.S. Occupational Safety and Health Administration, a federal agency regulating the health safety of the work place.

Oxidant

A mixture of chemically oxidizing compounds formed from ultraviolet stimulated reactions in the atmosphere, with ozone a principal fraction.

Ozone

A molecule of three oxygen atoms -- O₃. A principal component of "oxidant" in photochemically polluted atmospheres.

PA

Programmatic Agreement.

PAH

Polyaromatic hydrocarbons; hazardous air pollutants.

Particulate matter (particulates)

Very fine sized solid matter or droplets, typically averaging one micron or smaller in diameter. Also called "aerosol."

PCBs

polychlorinated biphenyls.

PEA

Proponent's Environmental Assessment; required by CPUC when filing application for CPNC.

PG&E Co.

Pacific Gas and Electric Company.

Ph

A measure of acidity or alkalinity.

Photochemical Pollutant

Reactive organic compounds (ROC) and nitrogen oxides (NOx), photochemical pollutants that absorb energy from the sun and react chemically to form ozone (O₃).

Phytoplankton

Microscopic plants that form the base of the marine/aquatic food chain.

Pipeline Corridor

Fifty- to two hundred-foot strip of land for installation of the proposed Tuscarora pipeline. It can be part of a utility corridor containing other linear utility systems.

Planning Reserves

As required by WSCC Operating Criteria, WSCC member utilities must have standby generation capacity, in addition to existing demand requirements, to insure an adequate level of service.

PM₁₀

Particulate matter less than 10 micron in size, which is small enough to be inhaled deeply into the lungs and cause disease.

ppb

Parts per billion, a measure of the amount of one substance in a second, which is the carrier.

ppm

Parts per million, a measure of the amount of one substance found in a carrier.

ppt

Parts per thousand, a measure of the amount of one substance found in a carrier.

PSD

Prevention of Significant Deterioration; a federal set of limits on emissions of sulfur oxide and particulates to protect air quality in non-urban area.

psi

Pounds per square inch.

Psig

The gauge value of pressure in pounds per square inch.

PTO

Permit to Operate; Granted by the APCD after source testing and validation of permits.

Rating

Maximum operation limit of transmission or generation facilities, as established by WSCC and/or NPP operating and reliability criteria guidelines. Utility facilities and interconnections can be rated either for individual or simultaneous operation, where simultaneous operations take into consideration collective WSCC or NPP utilities.

Reactive Power

A component of power production that is not sold.

Riparian

Area along the banks of a river or lake supporting specialized plant and animal species.

Riprap

A foundation constructed of broken stones or boulders loosely placed or thrown together, as in deepwater, on a soft bottom, or as a seawall to protect against erosion.

RMP

Resource Management Plan.

RNA

Research Natural Area.

ROC

Reactive Organic Compounds (see Air Quality) that are chemically sensitive to the ultraviolet light in sunlight.

ROW

Right of way; an easement, lease, permit, or license across an area or strip of land to allow access or to allow a utility to pass through public or private lands.

RTU

Remote Terminal Units; a device that takes data from field transmitters that detect pressure, temperature and other parameters.

Ruderal

Growing where the natural vegetation cover has been disturbed.

RWQCB

Regional Water Quality Control Board.

SCAQMD

South Coast Air Quality Management District.

SCE

Southern California Edison.

SCF

Standard cubic foot; a measure of volume or rate of flow of liquid.

SDG&E

San Diego Gas & Electric.

SCS

Soil Conservation Service.

SCVWD

Santa Clara Valley Water District.

SEA

Significant Ecological Area; an area containing an ecosystem of value and requiring government protection.

Seedbank

The layer of topsoil containing native plant seed material, which is frequently used as a "seed bank" for revegetation of native plants.

Self-Owned or Utility-Owned Generation

Generation which is possessed by a utility.

Sensitive Receptor

Land uses adjacent to or within proximity to the Proposed Project that could be impacted by construction, operation, and maintenance activities

Shrink-swell potential

The expansion or contraction of primarily clay-rich soils during alternating wetting and drying cycles.

SHPO

State Historic Preservation Office.

SIP

State Implementation Plan (see Air Quality); a document required periodically from each county by EPA that indicates the progress and the planning of the county for improving the quality of its air.

SLC

State Lands Commission; the California agency that manages state-owned lands, such as the zone between mean high tide and the land lying offshore within the three-mile limit.

SO_x

Sulfur oxides. The group of compounds formed during combustion or thereafter in the atmosphere of sulfur compounds in the fuel, each having various levels of oxidation, ranging from two oxygen atoms for each sulfur atom to four oxygen atoms.

SO₂

Sulfur Dioxide; a corrosive and poisonous gas produced from the complete combustion of sulfur in fuels.

SPCC

Spill prevention containment and counter measure.

SPEA

Supplemental Proponent's Environmental Assessment.

SR

State Route.

SSZ

Special studies zone.

Stream Scour

Lowering of a stream bed during the passage of a single stream flow. Stream scour can be local in nature (see Local Scour) or more wide-spread (see General Scour).

Substrate

Geologic term describing soil or geologic layers underlying the ground surface.

Sulfates

Compounds in air or water that contain four oxygen atoms for each sulfur atom. See SO_x.

Sulfur oxides

A gaseous mixture of sulfur dioxide (SO₂) and sulfur trioxide (SO₃) and symbolically represented as SO_x. Can include particulate species such as sulfate compounds (-SO₄).

SWPPP

Storm Water Pollution Prevention Plan.

TAC

Toxic Air Contaminants.

TC

Transportation corridor.

TCM

Transportation Control Measures.

TDM

Transportation Demand Management; a system of analysis designed to reduce traffic levels and thereby reduce air pollution.

TDS

Total Dissolved Solids.

Terrestrial

Related to or living on land. Terrestrial biology deals with upland areas as opposed to shorelines or coastal habitats.

tpd

Tons per day.

Transmission Service Customers

Wholesale electricity utilities or other entities which pay for the use of another utility's facilities to transmit electric power from one point to another.

TSP

Total Suspended Particulates; solid or liquid particles small enough to remain suspended in air. PM_{10} is the portion of TSP that can be inhaled.

Turbidity

Cloudiness or muddiness of water, resulting from suspended or stirred up particles.

ug/m³

Millionths of a gram per cubic meter, a unit of concentration in liquids or gases.

UBC

Uniform Building Code.

UPRR

Union Pacific Railroad.

UPRS

Union Pacific Railroad System.

USACE

U.S. Army Corps of Engineers.

USCS

Unified Soils Classification System.

USDA

U.S. Department of Agriculture

USFS

U.S. Forest Service.

USFWS

U.S. Fish and Wildlife Service.

UTBP

Underground Through Business Park.

Utility Corridor

A strip of land, or an easement, on which utility facilities such as powerlines and pipelines are constructed.

V/C

Volume to Capacity ratio; a measure of the capacity of a roadway. When V/C is 100 percent, no more traffic can be accommodated.

Viscosity

Term applied to a fluid indicating its resistance to shear. In common terms, how "sticky" the fluid.

Visual sensitivity

Consideration of people's uses of various environments and their concerns for maintenance of scenic quality and open-space values; examples of areas of high visual sensitivity would be areas visible from scenic highways, wilderness areas, parks, recreational water bodies, etc.

VMT

Vehicle miles traveled, usually per day.

vpd

Vehicles per day; see Transportation.

VRM

Visual Resource Management.

VTA

(Santa Clara) Valley Transportation Authority.

Watershed

The area contained within a drainage divide above a specified point on a stream.

Wetland

Lands transitional between obviously upland and aquatic environments. Wetlands are generally highly productive environments with abundant fish, wildlife, aesthetic, and natural resource values. For this reason, coupled with the alarming rate of their destruction, they are considered valuable resources, and several regulations and laws have been implemented to protect them.

Wheeling

An electric operation wherein transmission facilities of one system are utilized to transmit power of another system.

WPCP

Water Pollution Control Plant.

WSCC

Western System Coordinating Council

WSF

Water Soluble Fraction.

WUG

Western Utility Group.

Zooplankton

Microscopic marine/aquatic animals generally
carried within a water mass.

PREPARERS OF THIS DOCUMENT AND THEIR QUALIFICATIONS

A consultant team of 30 key technical and administrative personnel headed by Aspen Environmental Group prepared this document under the direction of the CPUC. Table A-1, below, presents the preparers and technical reviewers of this document and their qualifications.

Table A-1 List of Preparers of this Document

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Jeff Haltiner, Water Resources	Phillip Williams and Associates	P.E. California; Ph.D. Water Resource Engineering	25
Michelle Orr, Hydrology	Phillip Williams and Associates	M.S. Water Resources Engineering; B.A. Scientific History	6
Douglas Herring, Land Use and Public Recreation	Douglas Herring and Associates	Master of Public Policy B.A. Urban Geography	12
Charles Williams, Public Health, Safety, and Nuisance	R.W. Beck, Inc.	B.S. Civil Engineering	21
Michael Fajans, Socioeconomics and Public Services	Gabriel-Roche	M.C.P. City Planning; B.A. Geography	30
Kathryn Kasch, Socioeconomics and Public	Gabriel-Roche	M.A. City Planning; B.A. Sociology	30

Name/Role	Agency/ Firm	Education	Yrs. Exper.
Services			
Frank Markowitz, Transportation and Traffic	Wilbur Smith Associates	Master of City and Regional Planning; B.A. Communication/ Urban Studies	20
Michael Clayton, Visual Resources	Michael Clayton and Associates	M.S. Environmental Management; B.A. Biology	23

APPENDIX 2.

NOTICE OF PREPARATION AND INITIAL STUDY

STATE OF CALIFORNIA

GRAY DAVIS, Governor

PUBLIC UTILITIES COMMISSION505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

Notice of Preparation
Environmental Impact Report
for the
Proposed Northeast San Jose Transmission Reinforcement Project
by Pacific Gas and Electric Company
Application No. 99-09-029

Project Description

Pacific Gas and Electric Company (PG&E) has filed an application for a Certificate of Public Convenience and Necessity to the California Public Utilities Commission (CPUC) for the proposed Northeast San Jose Transmission Reinforcement Project. The 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).

The proposed project includes the following components:

- Construction of a 7.3 mile long 230 kV double circuit transmission line from Newark Substation to the new Los Esteros Substation by the summer of 2002
- Construction of a new 24 acre combined transmission substation (230/115 kV) and distribution substation (230/21 kV) (Los Esteros Substation)
- New 21 kV connections from Los Esteros Substation to local distribution circuits to serve future local growth
- Modification of the Newark Substation to accommodate the new 230 kV transmission line
- Replacement of a segment of an existing 115 kV single circuit wood pole line with a double circuit steel pole line
- Connection of the Los Esteros Substation to the 115 kV system with four 115 kV power line circuits

Project Location

The project is located within the Cities of Fremont and San Jose, and includes a small unincorporated area of Santa Clara County (see detailed project description and map included in Initial Study, attached).

Potential Environmental Effects

Based on the findings of the CPUC's [Initial Study](#), completion of the proposed project may have a number of potentially significant environmental effects, particularly during the construction phase. In accordance with the guidelines of the California Environmental Quality Act (CEQA), the CPUC intends to prepare an EIR to evaluate the potential environmental effects and to propose measures to mitigate them. The EIR will also study alternatives to the transmission line route and substation location.

Potential changes to the existing environment may occur in each of the following areas:

- Transportation and Traffic
- Noise
- Air Quality
- Aesthetics
- Geology/Soils
- Public Services
- Biological Resources
- Agricultural Resources
- Population/Housing
- Land Use/Planning
- Hydrology and Water Quality
- Hazards and Hazardous Materials

The EIR will also evaluate the cumulative impacts of the project in combination with other present and planned projects in the area.

Public Comment

Please send written comments on the scope of the EIR to:

Judith Iklé
California Public Utilities Commission
c/o Aspen Environmental Group
235 Montgomery Street, Suite 968
San Francisco, CA 94104

Project Information Line: (408) 351-8858

Please send your comments by first-class mail and be sure to include your name and a return address.

E-mail communications are welcome; however, please remember to include your name and return address in the e-mail message. E-mail messages should be sent to: nesanjo@AspenEG.com. All comments must be received by January 20, 2000.

Information about this application will be posted on the Internet at:

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

The CPUC will conduct two public Scoping Meetings in the project area. The purpose of these meetings is to present information about the project and to listen to the views of the public on the range of issues relevant to the preparation of the Draft Environmental Impact Report. Both meetings will be held on Wednesday, January 12, 2000; times and locations are as follows:

SCOPING MEETINGS Wednesday, January 12, 2000	
2:00 p.m. to 4:00 p.m. Fremont Public Library, Room Fukaya B 2400 Stevenson Boulevard Fremont, CA	6:30 p.m. to 8:30 p.m. Crowne Plaza San Jose-Silicon Valley, Krystal Ballroom 777 Bellew Drive, Milpitas, CA
Directions: I-880 to Stevenson Blvd., east about 2.3 miles to corner of Paseo Padre Parkway <u>or</u> Fremont Blvd. to Stevenson Blvd. then east 0.8 miles to Paseo Padre Parkway	Directions: Hwy 237 to McCarthy exit, south to Bellew <u>or</u> I-880 to Montague Expressway, west to McCarthy, north to Bellew Drive

The California Public Utilities Commission hereby issues this Notice of Preparation of an EIR.

Original Signed by Natalie Walsh

Natalie Walsh
Branch Chief
Energy Division

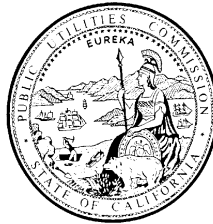
[Project Home Page](#) - [Project Description](#) - [Project Area & Map](#)
[Public Involvement](#) - [Environmental Review](#)
[CPUC Environmental Information Page](#) - [CPUC Home Page](#)

INITIAL STUDY

NORTHEAST SAN JOSE TRANSMISSION REINFORCEMENT PROJECT

PACIFIC GAS AND ELECTRIC COMPANY

Application 99-09-029



**Prepared for:
California Public Utilities Commission
Contract Number PS-5004**

Prepared by:
Aspen Environmental Group

December 9, 1999

Environmental Checklist Form

1. Project Title: Northeast San Jose Transmission Reinforcement Project

2. Lead Agency Name and Address:

California Public Utilities Commission (CPUC)
Energy Division
505 Van Ness Avenue
San Francisco, CA 94102

3. Contact Person and Phone Number:

Judith Iklé, Regulatory Analyst
Energy Division
(415) 703-1486

4. Project Location:

City of Fremont (Alameda County), City of San Jose (Santa Clara County), and unincorporated Santa Clara County, California

5. Project Sponsor's Name and Address:

Robert Bonderud
Pacific Gas and Electric
Mail Code N10A, P.O. Box 77000
San Francisco, CA 94177

6. General Plan Designation:

City of Fremont: General and Restricted Industrial with a Commercial/Industrial Overlay, Institutional and Private Open Space, and Agricultural

City of San Jose: Public/Quasi-Public and Light Industrial

Unincorporated Santa Clara County: Agricultural

7. Zoning:

City of Fremont: General Industrial, Planned District, and Restricted Industrial

City of San Jose: Manufacturing, Agricultural, Industrial

Unincorporated Santa Clara County: Agricultural

8. Description of Project:

The proposed project is intended to expand PG&E's capacity to provide electric service to the northeast San Jose area. The project would require construction of several components, which are described in more detail below:

- C Construction of a new 24-acre combined transmission substation (230/115 kV) and distribution substation (230/21 kV) (Los Esteros Substation)
 - Construction of a 7.3-mile-long 230 kV double-circuit transmission line from Newark Substation to the new Los Esteros Substation by the summer of 2002
- C New 21 kV connections from Los Esteros Substation to local distribution circuits to serve future local growth
- C Modification of the Newark Substation to accommodate the new 230 kV transmission line
- C Replacement of a segment of an existing 115 kV single-circuit wood pole line with a double-circuit steel pole line
- C Connection of the Los Esteros Substation to the 115 kV system with four 115 kV power line circuits.

Los Esteros Substation. The proposed Los Esteros Substation site is located on the north side of State Route 237, between Zanker Road and Coyote Creek. The site would occupy the northern 24 acres of a 54-acre property that is currently occupied by greenhouses, agricultural facilities, and buildings that house residents engaged in agricultural work. The substation would be an unattended, remote-controlled facility that would require periodic maintenance. The substation would initially consist of three 230/115 kV transmission transformers, circuit breakers, bus, capacitors, and controls. Ultimately, a fourth 230/115 kV transformer would be installed.

PG&E also plans to install four 230/21 kV transformer banks at the Los Esteros Substation on the west side of the proposed 24-acre substation site. Each transformer bank would serve three 21 kV distribution circuits that connect into the 21 kV distribution system. These twelve 21 kV circuits are planned for connection to existing or future distribution lines in the area of the Los Esteros Substation. Distribution substation banks would be added to the substation when the load is projected to exceed capacity. PG&E anticipates this will occur within the next ten years.

230 kV Transmission Line. The proposed project includes the construction of a 7.3-mile-long 230 kV double-circuit transmission line from the Newark Substation to the new Los Esteros Substation (see Figure 1). PG&E's Proposed Route parallels existing PG&E 115 kV power lines for approximately 2 miles of its 7.3-mile length and then diverges easterly. The route crosses property owned by Catellus Corporation south of the Auto Mall Parkway, two Cargill Salt Company (Cargill) salt ponds, the westerly edge of the Bayside Business Park, the Fremont Airport property, the Santa Clara Valley Water District's Coyote Creek Flood Control Channel, and the San Jose/Santa Clara Water Pollution Control Plant (WPCP) property north of State Route 237.

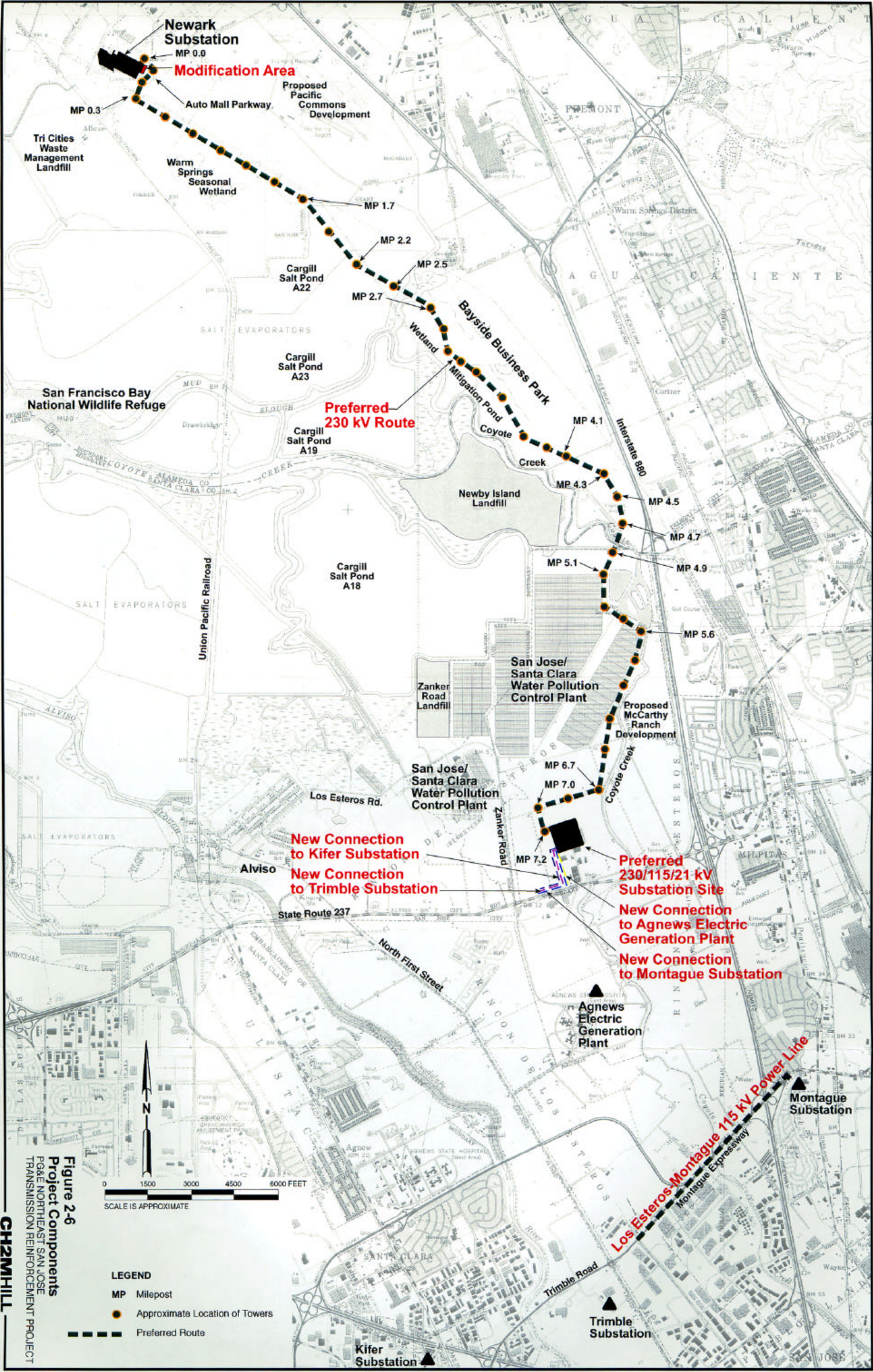
Newark Substation Modification. The 230 kV bus structure within the existing Newark Substation yard would be extended to accommodate the new 230 kV transmission line. The area that would be occupied by the new equipment is within the existing footprint of the substation and is currently used as a storage area for heavy electrical equipment. PG&E would relocate the equipment to another facility to make room for the modification.

115 kV Power Lines. The Los Esteros Substation would be connected to the 115 kV transmission system via four 115 kV power lines: Los Esteros to Kifer Power Line, Los Esteros to Trimble Power Line, Los Esteros to Montague Power Line, and Agnews Tap Line. This would be achieved, in part, by utilizing 115 kV power lines to be built as part of the North San Jose Area Capacity Increase Project (Nortech Project). PG&E plans to follow existing power lines and utilize double-circuit steel poles in order to minimize the creation of new power line corridors to the greatest extent possible.

- ***Los Esteros to Kifer and Los Esteros to Trimble 115 kV Power Lines.*** PG&E would install two 115 kV power lines with bundled 715 kcmil conductors on a double-circuit line from the Los Esteros Substation to the Trimble to Kifer 115 kV Loop at the Zanker Road/State Route 237 interchange. PG&E will connect into the Trimble to Kifer 115 kV Loop north of State Route 237 and east of Zanker Road.

- ***Los Esteros to Montague 115 kV Power Line.*** This power line would utilize a 2.4-mile segment of the Trimble to Kifer 115 kV Loop along Zanker Road, which is planned to be built by as a double circuit line by the summer of 2000 as part of the North San Jose Area Capacity Project. Four-tenths of a mile of 115

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Newark Substation
 MP 0.0
Modification Area

MP 0.3
 Tri Cities Waste Management Landfill

Auto Mall Parkway
 Warm Springs Seasonal Wetland

Proposed Pacific Commons Development

MP 1.7

MP 2.2

MP 2.5

MP 2.7

Cargill Salt Pond A22

Cargill Salt Pond A23

Cargill Salt Pond A19

Preferred 230 kV Route

Wetland

Bayside Business Park

Mitigation Pond

Coyote Creek

MP 4.1

MP 4.3

MP 4.5

MP 4.7

MP 4.9

MP 5.1

MP 5.6

Interstate 880

Newby Island Landfill

Cargill Salt Pond A18

San Jose/Santa Clara Water Pollution Control Plant

Proposed McCarthy Ranch Development

San Jose/Santa Clara Water Pollution Control Plant

MP 6.7

MP 7.0

MP 7.2

New Connection to Kifer Substation
New Connection to Trimble Substation

Preferred 230/115/21 kV Substation Site
New Connection to Agnews Electric Generation Plant
New Connection to Montague Substation

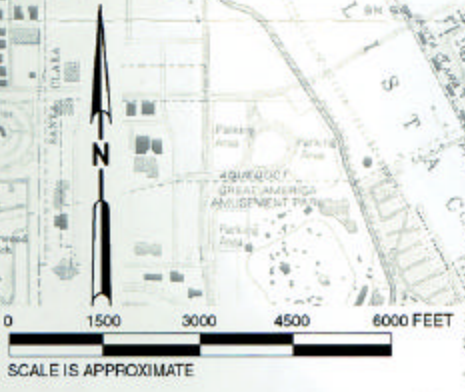
Agnews Electric Generation Plant

Montague Substation

Los Esteros-Montague 115 kV Power Line

Trimble Substation

Kifer Substation



LEGEND

- MP Milepost
- Approximate Location of Towers
- Preferred Routes

Figure 2-6
Project Components
 PG&E NORTHEAST SAN JOSE
 TRANSMISSION REINFORCEMENT PROJECT
CH2MHILL

kV power line would be constructed between the new Los Esteros Substation and the northeast corner of the Zanker Road/State Route 237 intersection and 1.4 miles of double-circuit replacement line would be constructed along Trimble Road and Montague Expressway.

- **Agnews 115 kV Tap Line.** The existing Agnews 115 kV Tap would connect into the new Los Esteros Substation. This would shorten the tap from 2.9 miles to 1.2 miles.

9. Surrounding Land Uses and Settings:

The following land uses are in the vicinity of the proposed project:

City of Fremont: Industrial (substation and business park), open space, transmission line corridor, salt ponds, wetland mitigation pond, national wildlife refuge
 City of San Jose: National wildlife refuge marshland, landfills, salt ponds, open space, water pollution control plant, row crops
 Santa Clara County: Row crops, greenhouses, and ancillary residences.

10. Other Public Agencies Whose Approval Is Required:

Agency	Permit
Federal Agency	
U.S. Army Corps of Engineers	Nationwide or Individual Permit (Section 10/404 Permit)
U.S. Fish and Wildlife Services	Section 7 Consultation (through U.S. Army Corps of Engineers review process)
U.S. Fish and Wildlife Services	Grant of Public Use Right of Way
Advisory Council on Historic Preservation	Section 106 Review (through U.S. Army Corps of Engineers review process)
State Agencies	
Regional Water Quality Control Board	NPDES-General Construction Storm Water Permit
	Section 401 Water Quality Certification or Waiver of Waste Discharge Requirements
Bay Conservation and Development Commission	Compatibility with the San Francisco Bay Shoreline Preservation Plans
California Department of Fish and Game	Endangered Species Consultation (through CEQA review process)
State Historic Preservation Officer	Consultation (through CEQA review process)
Local Agencies	
County of Santa Clara	Road Encroachment Permit
City of San Jose	Road Encroachment Permit
	Welding Permit
Bay Area Air Quality Management District	Authority to Construct/Permit to Operate
Santa Clara Valley Water District	Grant of Public Use Right-of-Way

Source: PEA, 1998

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages.

- | | | |
|---------------------------------|--------------------------------------|----------------------------|
| • Aesthetics | • Agricultural Resources | • Air Quality |
| • Biological Resources | 9 Cultural Resources | • Geology / Soils |
| • Hazards & Hazardous Materials | • Hydrology / Water Quality | • Land Use / Planning |
| 9 Mineral Resources | • Noise | • Population / Housing |
| • Public Services | 9 Recreation | • Transportation / Traffic |
| 9 Utilities / Service Systems | • Mandatory Findings of Significance | |

DETERMINATION:

On the basis of this initial evaluation:

- 9 I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- 9 I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the applicant. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- 9 I find that the proposed project MAY have a “potentially significant impact” or “potentially significant impact unless mitigated” on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- 9 I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature: _____

Date: _____

Printed Name: _____

For: _____

EVALUATION OF ENVIRONMENTAL IMPACTS:

	<i>Potentially Significant Impact</i>	<i>Potentially Significant Unless Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
I. AESTHETICS. <i>Would the project:</i>				
a) Have a substantial adverse effect on a scenic vista?	:	9	9	9
b) Damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	:	9	9	9
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	:	9	9	9
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views of the area?	:	9	9	9

Explanation:

- a) **Potentially Significant Impact.** Towers and lines will be visible from various vantage points, and some vistas across the San Francisco Bay and the National Wildlife Refuge may be considered scenic. Evaluation of potential effects to visual resources will be considered in the EIR.
- b) **Potentially Significant Impact.** No highways in the project area have been designated as state scenic highways (SPEA, 1999). The proposed project would not affect any rock outcroppings or historic buildings, but may require removal of trees adjacent to the existing Bayside Business Park (PEA, 1998). Additional evaluation of potential effects to visual resources will be presented in the EIR.
- c) **Potentially Significant Impact.** Approximately twenty-seven percent of the Proposed Route is adjacent to two existing PG&E power lines; however the proposed new pole design would result in more massive structures, inconsistent with the appearance of the current structures. Construction would mainly occur adjacent to a developing commercial/industrial area crossed by existing transmission lines (SPEA, 1999). Viewers in and near the Bayside Business Park would likely experience visual obstruction of views to the west. The new Los Esteros Substation could be seen by nearby residents and motorists traveling on State Route 237, and may be considered as a negative aesthetic impact in comparison to the existing agricultural fields and facilities. The EIR will analyze the degradation and/or loss of visual resources and suggest appropriate mitigation to lessen impacts.
- d) **Potentially Significant Impact.** Lights will be installed around the new Los Esteros Substation, but equipment will use low wattage bulbs and the lights will have a downward focus. The EIR will analyze the degradation and/or loss of visual resources and suggest appropriate mitigation to lessen impacts.

II. AGRICULTURAL RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. *Would the project:*

	<i>Potentially Significant Impact</i>	<i>Potentially Significant Unless Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use? (The Farmland Mapping and Monitoring Program in the California Resources Agency, Department of Conservation, maintains detailed maps of these and other categories of farmland.)	:	9	9	9
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	:	9	9	9
c) Involve other changes in the existing environment which, due to their location or nature, could individually or cumulatively result in loss of Farmland, to non-agricultural use?	:	9	9	9

Explanation:

- a) **Potentially Significant Impact.** The Proposed Substation (Los Esteros Substation) Site would conflict with the County of Santa Clara's existing land use policies because it would require the removal of productive prime agricultural land (PEA, 1998). This issue will need to be evaluated and addressed further in the EIR.

- b) **Potentially Significant Impact.** The Los Esteros Substation Site is not protected by the Williamson Act (PEA, 1998). San Jose and Unincorporated Santa Clara County have agricultural zoning designations along the Proposed Route. The City of Fremont allows overhead electrical lines in all land use designations (PEA, 1998). However, the Los Esteros Substation Site would conflict with the County of Santa Clara’s zoning designations and existing land use policies because it would require the removal of productive prime agricultural land.
- c) **Potentially Significant Impact.** The project would involve changes in the existing environment which could individually or cumulatively result in loss of Farmland, to non-agricultural use. Development of the Los Esteros Substation Site would require the removal of productive prime agricultural land.

III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. *Would the project:*

	<i>Potentially Significant Impact</i>	<i>Potentially Significant Unless Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Conflict with or obstruct implementation of the applicable Air Quality Attainment Plan or Congestion Management Plan?	:	9	9	9
b) Violate any stationary source air quality standard or contribute to an existing or projected air quality violation?	:	9	9	9
c) Result in a net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	:	9	9	9
d) Create or contribute to a non-stationary source “hot spot” (primarily carbon monoxide)?	9	9	:	9
e) Expose sensitive receptors to substantial pollutant concentrations?	9	9	:	9
f) Create objectionable odors affecting a substantial number of people?	9	9	9	:

Explanation:

- a) **Potential Significant Impact.** This issue will need to be assessed in detail in the EIR. Onsite and offsite emissions from construction and operational phases (including from indirect sources such as increases in power generation emissions) of the project will need to be compared to Bay Area Air Quality Management District (BAAQMD) thresholds and California Ambient Air Quality Standards (CAAQS) to determine the significance of potential impacts. If project emission levels are deemed significant, then mitigation measures will be developed in the EIR to reduce emissions to a level below significance.
- b) **Potential Significant Impact.** See explanation IIIa.
- c) **Potential Significant Impact.** See explanation IIIa.
- d) **Less than Significant Impact.** This issue will need to be addressed in more detail in the EIR. A carbon monoxide hotspot is an area where carbon monoxide concentrations are consistently elevated due to a chronic non-stationary emission source such as a highly traveled interstate. It is anticipated that onsite and offsite emissions from construction and operational phases of the project would not significantly contribute to a non-stationary carbon monoxide source (e.g., Interstate 880).
- e) **Less than Significant Impact.** It is anticipated that emissions released during the construction and operational phases of the project would not expose sensitive receptors to substantial pollutant concentrations.
- f) **No Impact.** Construction and operation of the project would not require the use of equipment or materials that would cause objectionable odors.

IV. BIOLOGICAL RESOURCES. <i>Would the project:</i>	<i>Potentially Significant Impact</i>	<i>Potentially Significant Unless Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Adversely impact, either directly or through habitat modifications, any endangered, rare, or threatened species, as listed in Title 14 of the California Code of Regulations (sections 670.2 or 670.5) or in Title 50, Code of Federal Regulations (section 17.11 or 17.12)?	:	9	9	9
b) Have a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	:	9	9	9
c) Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	:	9	9	9
d) Adversely impact federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, or other means?	:	9	9	9
e) Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	:	9	9	9
f) Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?	9	9	9	:
g) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?	:	9	9	9

Explanation:

- a) **Potentially Significant Impact.** Several endangered, rare, or threatened species have been identified in the area, and could be present within the proposed transmission line ROW or substation site including:

Vernal Pool Tadpole Shrimp (<i>Lepidurus packardii</i>)	Harbor Seal (<i>Phoca vitulina</i>)	Delta Tule Pea (<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>)
California Tiger Salamander (<i>Ambystoma californiense</i>)	Point Reyes Bird's-beak (<i>Cordylanthus maritimus</i> ssp. <i>palustris</i>)	California Seablite (<i>Suaeda californica</i>)
Central California Steelhead Trout (<i>Oncorhynchus mykiss</i>)	Congdon's Tarplant (<i>Hemizonia parryi</i> ssp. <i>congdonii</i>)	Caper-fruited Tropicocarpum (<i>Tropicocarpum capparideum</i>)
Salt Marsh Harvest Mouse (<i>Reithrodontomys raviventris</i>)	Contra Costa Goldfields (<i>Lasthenia conjugens</i>)	
California Clapper Rail (<i>Rallus longirostris obsoletus</i>)		
California Least Tern (<i>Sterna antillarum browni</i>)		
Western Snowy Plover (<i>Charadrius alexandrinus nivosus</i>)		

Construction and operation could cause disturbance and habitat modifications. Surveys will need to be conducted for endangered, rare, or threatened species, and the EIR will present the results of an impact analysis on these species.

- b) **Potentially Significant Impact.** Several candidate, sensitive, and special status species have been identified in the area, and could be present within the proposed transmission line ROW or substation site including:

Salt Marsh Wandering Shrew (<i>Sorex vagrans halicoetes</i>)	White-tailed Kite (<i>Elanus caeruleus</i>)	California Yellow Warbler (<i>Dendroica petechia</i>)
Burrowing Owl (<i>Athene cucularia</i>)	Golden Eagle (<i>Aquila chrysaetos</i>)	Alkali Milk-vetch (<i>Astragalus tener</i> var. <i>tener</i>)
Tri-colored Blackbird (<i>Agelaius tricolor</i>)	Saltmarsh Yellowthroat (<i>Geothlypis trichas sinuosa</i>)	Marsh Gumplant (<i>Grindelia stricta</i> var. <i>angustifolia</i>)
Northern Harrier (<i>Circus cyaneus</i>)	Alameda Song Sparrow (<i>Melospiza melodia pusillula</i>)	Hairless Popcorn-flower (<i>Plagiobothrys glaber</i>)

Construction and operation could cause disturbance and habitat modifications. The EIR will survey for candidate, sensitive, and special status sensitive species, and present the results of an impact analysis on these species.

- c) **Potentially Significant Impact.** Several sensitive habitats (coastal brackish marsh, coastal salt marsh, seasonal wetlands, and intertidal mudflats) exist at the site that could be impacted by construction of the proposed transmission ROW. The EIR will analyze the degradation and/or loss of this habitat and suggest appropriate mitigation to lessen impacts.
- d) **Potentially Significant Impact.** The project area includes coastal brackish marsh, coastal salt marsh, seasonal wetlands, and intertidal mudflats. One or more of these areas will be impacted by the installation of towers along the proposed transmission line route. Of special concern will be the area between Mileposts 0 to 1.7 of the Proposed Route which crosses the Warm Springs Seasonal Wetland (an area proposed for future inclusion in the National Wildlife Refuge as mitigation for construction of the Pacific Commons Project). The EIR will analyze the short-term and long-term impacts of tower installation and suggest appropriate mitigation to lessen impacts.
- e) **Potentially Significant Impact.** Although the project does not create a permanent barrier to migration, and does not cross a known bird migration corridor, there is a moderate potential for bird strikes to occur as a result of the proposed transmission line. Analysis of such impacts and suggested mitigation will be included in the EIR.
- f) **No Impact.** Construction and operation of the proposed project or action alternatives will not harm any designated heritage trees or other locally protected biological resources (PEA, 1998).
- g) **Potentially Significant Impact.** A small portion (approximately 700 feet) of the proposed transmission line would cross into state-owned land managed by (by not actually part of) the Don Edwards San Francisco Bay National Wildlife Refuge. This issue will need to be more completely addressed in the EIR.

V. CULTURAL RESOURCES. <i>Would the project:</i>	<i>Potentially Significant Impact</i>	<i>Potentially Significant Unless Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Cause a substantial adverse change in the significance of a historical resource which is either listed or eligible for listing on the National Register of Historic Places, the California Register of Historic Resources, or a local register of historic resources?	9	9	:	9
b) Cause a substantial adverse change in the significance of a unique archeological resource (i.e., an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it contains information needed to answer important scientific research questions, has a special or particular quality such as being the oldest or best available example of its type, or is directly associated with a scientifically recognized important prehistoric or historic event or person)?	9	9	:	9

c) Disturb or destroy a unique paleontological resource or site?	9	9	9	:
d) Disturb any human remains, including those interred outside of formal cemeteries?	9	9	9	:

Explanation:

- a) **Less than Significant.** A records search performed by the Applicant found no resources listed on the California Register of Historic Resources or the National Register of Historic Places. However, a previously identified prehistoric archaeological site (CA-ALA-528) lies in the vicinity of the Los Esteros Substation Site. The site will be avoided by the project as it is currently proposed (PEA, 1998).
- b) **Less than Significant.** An archeological site was found during a records search by the Applicant (PEA, 1998). The site lies in the vicinity of the Los Esteros Substation Site. The site will be avoided by the project as it is currently proposed (PEA, 1998).
- c) **No Impact.** The area of the Proposed Route is comprised of alluvial deposits that do not contain paleontological resources (SPEA, 1999).
- d) **No Impact.** It is anticipated that the project will not affect any known site containing human remains.

VI. GEOLOGY AND SOILS. *Would the project:*

	<i>Potentially Significant Impact</i>	<i>Potentially Significant Unless Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	:	9	9	9
ii) Strong seismic ground shaking?	:	9	9	9
iii) Seismic-related ground failure, including liquefaction?	:	9	9	9
iv) Inundation by seiche, tsunami, or mudflow?	9	9	:	9
v) Landslides?	9	9	:	9
vi) Flooding, including flooding as a result of the failure of a levee or dam?	:	9	9	9
vii) Wildland fires, including where wildlands are adjacent to urbanized areas and where residences are intermixed with wildlands?	9	9	:	9
b) Would the project result in substantial soil erosion or loss of topsoil?	:	9	9	9
c) Would the project result in the loss of a unique geologic feature?	9	9	9	:
d) Is the project located on strata or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	:	9	9	9
e) Is the project located on expansive soil creating substantial risks to life or property?	:	9	9	9

	<i>Potentially Significant Impact</i>	<i>Potentially Significant Unless Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
VI. GEOLOGY AND SOILS. <i>Would the project:</i>				
f) Where sewers are not available for the disposal of waste water, is the soil capable of supporting the use of septic tanks or alternative waste water disposal systems?	9	9	9	:

Explanation:

- a) i) **Potentially Significant.** The project site is located in an area of seismic activity and structures associated with the proposed project could be rendered inoperable by a major earthquake. Two faults, the Silver Creek fault and an unnamed fault, are mapped near the Los Esteros Substation Site (SPEA, 1999). Although these faults are not considered active and are likely to be inactive, future fault rupture can not be discredited.
- ii) **Potentially Significant Impact.** This issue will need to be more completely addressed in the EIR. There are 18 active faults within 60 miles of project area (PEA, 1998). It is likely that the project would be exposed to several earthquakes which would produce strong ground shaking.
- iii) **Potentially Significant Impact.** This issue will need to be more completely addressed in the EIR because there are deposits within the project area that are susceptible to liquefaction. There are considerable liquefaction hazards along the Proposed (Easterly) Route because of its close proximity to Coyote Creek where deposits below the groundwater surface are moderately to highly susceptible to liquefaction (PEA, 1998).
- iv) **Less than Significant Impact.** Although highly unlikely, given the areas history of seismicity and the study areas proximity to San Francisco Bay, there is a possibility that fault displacement under the Bay could cause a seiche that could potentially effect the project area.
- v) **Less than Significant Impact.** There is very little potential for landslides near the proposed substation or route; the area is essentially flat.
- vi) **Potentially Significant Impact.** The project area north of State Route 237 could be subject to flooding. A majority (3.9 miles) of the Proposed 230 kV Route is located on land that has been designated by the Federal Emergency Management Agency (FEMA) as an area that would be subject to a 100-year flood, and the Los Esteros Substation Site is designated as an area that between the 100-year flood and the 500-year flood (PEA, 1998). This issue should be further assessed in the EIR.
- vii) **Less than Significant Impact.** See VII h (Hazards& Hazardous Materials).
- b) **Potentially Significant Impact.** This issue will need to be more completely addressed in the EIR. Most of project area soils are fine grained floodplain deposits which are susceptible to erosion. Surface disturbance and vegetation removal during construction at the proposed substation site could increase the potential for erosion (SPEA, 1999).
- c) **No Impact.** There are no known unique geologic features within the study area.
- d) **Potentially Significant Impact.** This issue will need to be more completely addressed in the EIR. The project is located on soils that are susceptible to ground subsidence, erosion, liquefaction, and strong ground shaking (SPEA, 1999).
- e) **Potentially Significant Impact.** This issue will need to be more completely addressed in the EIR. Portions of the Proposed Project would be located on expansive clay-rich soils which have a moderate to high shrink-swell potential (SPEA, 1999).
- f) **No Impact.** Soils within the study area are not capable of supporting the use of septic tank disposal systems because of their high clay content and because of high ground water levels. The project does not include the installation of such a waste water disposal system.

	<i>Potentially Significant Impact</i>	<i>Potentially Significant Unless Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
VII. HAZARDS & HAZARDOUS MATERIALS. <i>Would the project:</i>				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	9	9	:	9

VII. HAZARDS & HAZARDOUS MATERIALS. <i>Would the project:</i>	<i>Potentially Significant Impact</i>	<i>Potentially Significant Unless Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	9	9	:	9
c) Reasonably be anticipated to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	9	9	9	:
d) Is the project located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment ?	:	9	9	9
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	9	9	9	:
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	9	9	9	:
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	:	9	9	9
h) Expose people or structures to the risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	9	9	:	9

Explanation:

- a) **Less than Significant Impact.** During construction, hazardous materials and wastes would be handled in accordance with Best Management Practices prescribed in the project’s Stormwater Pollution Prevention Plan (SWPPP), which is required by the Regional Water Quality Control Board (RWQCB) in compliance with NPDES under the Federal Clean Water Act of 1987 (PEA, 1998). During operations, an oil spill caused by transformer failure would drain into a pond that meets federal spill prevention containment and countermeasure (SPCC) guidelines, as outlined in 40 Code of Federal Regulations, Part 112. Pursuant to U.S. EPA requirements, PG&E would inspect the equipment and the spill containment area monthly, and after heavy storm periods. In addition, the project would comply with all applicable federal, state, and local regulations. Compliance with these laws and regulations would reduce impacts related to hazardous materials and to a less than significant level.
- b) **Less than Significant Impact.** See explanation VIIa.
- c) **No Impact.** No school exists within one quarter mile of the proposed route.
- d) **Potentially Significant Impact.** This issue will need to be more completely addressed in the EIR. There are two properties along or adjacent to the Proposed Route that are identified in regulatory agency databases as having known or potential contamination that could create a significant hazard if encountered during construction. The subject properties include the San Jose/Santa Clara Water Pollution Control Plant and the Old Fremont Airport. The Proposed Route would involve placement of approximately six towers at the edge of the San Jose/Santa Clara Water Pollution Control Plant’s sludge drying beds and placement of an undetermined number of towers within the Old Fremont Airport between Milepost 4.2 to 4.9.
- e) **No Impact.** San Jose Airport is located approximately two miles southwest of the study area and is the closest airport to the study area. All transmission line towers associated with the project would be out of the airport’s “clear zone” and would not present a hazard to aircraft operations.
- f) **No Impact.** See explanation VIIe.

- g) **Potentially Significant Impact.** Temporary lane closures would be necessary along the south side of Trimble Road/Montague Expressway during construction to replace the existing single-circuit wood pole transmission line (PEA, 1998). A lane closure could significantly degrade emergency response time on a temporary basis. This issue will need to be more completely addressed in the EIR; mitigation will be developed if significant impacts are identified.
- h) **Less than Significant Impact.** Although there are no “wildlands” within the study area, with the possible exception of the combined Overhead/Underground 230 kV Alternative, transmission lines pose a fire hazard when a conducting object, such as a tree branch, comes in close proximity to a line, or when a live-phase conductor falls to the ground. However PG&E clears objects in close proximity to the line during construction and after construction for the life of the project. PG&E also installs high-speed relay equipment that senses a broken line and de-energizes the line in about one-tenth of a second to reduce the fire hazard potential (PEA, 1998).

VIII. HYDROLOGY & WATER QUALITY. <i>Would the project:</i>	<i>Potentially Significant Impact</i>	<i>Potentially Significant Unless Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Violate Regional Water Quality Control Board water quality standards or waste discharge requirements?	:	9	9	9
b) Substantially deplete groundwater supplies or interfere substantially with groundwater discharge such that there would be a net deficit in the aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	9	9	9	:
c) Substantially alter the existing drainage pattern of the site area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in substantial erosion or siltation on- or off-site?	:	9	9	9
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	:	9	9	9
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems to control?	:	9	9	9
f) Place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other hazard delineation map?	9	9	9	:
g) Place within a 100-year floodplain structures which would impede or redirect flood flows?	:	9	9	9

Explanation:

- a) **Potentially Significant Impact.** It is anticipated that no waste discharge standards will be violated during project operations. However, during construction certain types of discharges such as sediment, and equipment oil, grease, and fuels could potentially be released onto soil and or surface water, degrading water quality. This issue will need to be more completely addressed in the EIR.
- b) **No Impact.** Groundwater supplies would not be depleted in the study area because the project does not involve any groundwater withdrawals or interceptions.
- c) **Potentially Significant Impact.** Stormwater within the proposed Los Esteros Substation would be directed to the SPCC pond. The ponded water would be inspected and discharged to the area northwest of the substation where it would infiltrate or migrate toward the Bay. Transmission line towers could also affect surface water drainage patterns. This issue will need to be more completely addressed in the EIR.
- d) **Potentially Significant Impact.** A substantial storm event could cause onsite flooding at the proposed Los Esteros Substation if the SPCC pond overflows. This issue will need to be more completely addressed in the EIR.

- e) **Potentially Significant Impact.** This issue will need to be more completely addressed in the EIR. See explanation VIIIc and VIIIId.
- f) **No Impact.** The proposed project involves no construction of housing.
- g) **Potentially Significant Impact.** Tower construction could temporarily block small channel flows. This issue will need to be more completely addressed in the EIR.

IX. LAND USE AND PLANNING. <i>Would the project:</i>	<i>Potentially Significant Impact</i>	<i>Potentially Significant Unless Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Physically divide an established community?	9	9	9	:
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	:	9	9	9
c) Conflict with any applicable habitat conservation plan or natural communities conservation plan?	:	9	9	9

Explanation:

- a) **No Impact.** The proposed transmission line route would not physically divide an established community. (However, the proposed substation site would eliminate several existing residences; see item XII.b, below).
- b) **Potentially Significant Impact.** The preferred substation site would conflict with the County of Santa Clara’s existing land use policies because it would require the removal of productive prime agricultural land (PEA, 1998). In addition, a small portion (700 feet) of the proposed 230kV transmission line would span state-owned land managed by the Don Edwards San Francisco Bay National Wildlife Refuge (SPEA, 1999). This issue will need to be addressed further in the EIR.
- c) **Potentially Significant Impact.** See explanation IVg.

X. MINERAL RESOURCES. <i>Would the project:</i>	<i>Potentially Significant Impact</i>	<i>Potentially Significant Unless Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Result in the loss of availability of a known mineral resource classified MRZ-2 by the State Geologist that would be of value to the region and the residents of the state?	9	9	:	9
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	9	9	:	9

Explanation:

- a) **Less than Significant Impact.** Construction of some of the transmission tower footings would temporarily affect small areas of the salt ponds and levees managed by Cargill. However, the project would not reduce the amount of salt in the ponds or reduce the availability of this resource for the future (SPEA, 1999).
- b) **Less than Significant Impact.** See explanation Xa.

XI. NOISE. *Would the project result in:*

	<i>Potentially Significant Impact</i>	<i>Potentially Significant Unless Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	:	9	9	9
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	:	9	9	9
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	9	9	9	:
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	:	9	9	9
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	9	9	9	:
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	9	9	9	:

Explanation:

- a) **Potentially Significant Impact.** Temporary adverse noise levels would be generated by activities related to construction of the substation and installation of the new power lines. The Proposed Route is located 500 feet (or closer at some points) from the Bayside Business Park. In addition, there are residential receptors located approximately 250 feet south of the Los Esteros Substation Site and adjacent to the Montague Substation. This issue will need to be more completely addressed in the EIR.
- b) **Potentially Significant Impact.** Several vibration-sensitive businesses (i.e., lithographers and semiconductor manufacturers) may be located as close as 60 feet to the Proposed Route in the Bayside Business Park. Vibration caused by construction equipment could potentially impact the performance of vibration-sensitive equipment at the Bayside Business Park. This issue will need to be more completely addressed in the EIR.
- c) **No Impact.** The project would not result in a substantial permanent increase in ambient noise levels because there would be little noise associated with the operations of the project.
- d) **Potentially Significant Impact.** See explanation XIa.
- e) **No Impact.** San Jose Airport is located approximately two miles southwest of the study area and is the closest public or private airport, to the study area. All transmission line towers associated with the project would be located out of the airports "clear zone" and would not cause a hazard to aircraft operations.
- f) **No Impact.** See explanation XIe.

XII. POPULATION AND HOUSING. <i>Would the project:</i>	<i>Potentially Significant Impact</i>	<i>Potentially Significant Unless Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Induce a substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	:	9	9	9
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	:	9	9	9
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	:	9	9	9

Explanation:

- a) **Potentially Significant Impact.** The purpose of the project is to meet customer electric demand without overloading the existing electric facilities. The issue of whether the project would induce an indirect population growth in the area will be addressed in the EIR.
- b) **Potentially Significant Impact.** It is unknown at this time how many owners and/or residents reside on the proposed substation site, but construction of the substation would require the agricultural businesses and residents living on the substation site to relocate. This issue will need to be more completely addressed in the EIR.
- c) **Potentially Significant Impact.** See explanation XIIIb.

XIII. PUBLIC SERVICES.	<i>Potentially Significant Impact</i>	<i>Potentially Significant Unless Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
Would the project result in substantial adverse physical impacts associated with the provisions of new or physically altered government facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?	:	9	9	9
b) Police protection?	:	9	9	9
c) Schools?	9	9	9	:
d) Parks?	9	9	9	:
e) Other public facilities?	:	9	9	9

Explanation:

- a) **Potentially Significant Impact.** Temporary lane closures would be necessary along the south side of Trimble Road/Montague Expressway during construction to replace the existing single-circuit wood pole transmission line (PEA, 1998). A lane closure could significantly degrade the response time for fire protection services. This issue will need to be more completely addressed in the EIR.
- b) **Potentially Significant Impact.** Similar to explanation XIIIa, a lane closure could significantly degrade the response time for police protection services. This issue will need to be more completely addressed in the EIR.
- c) **No Impact.** The demand for schools would not increase as a result of the project.

- d) **No Impact.** It is anticipated that the demand for parks would not increase as a result of the project. Further, with regard to construction impacts, no existing parks have been identified adjacent to the proposed project or alternatives. However, hiking/walking trails in the area could be affected by construction or by the visual impact of the transmission line, and other parks may be added in the area in the future. These issues will be addressed in the EIR.
- e) **Potentially Significant Impact.** The demand for other public facilities may not increase as a result of the project, although there could be some temporary construction impacts associated with the proposed project or alternatives. This issue will need to be more completely addressed in the EIR.

XIV. RECREATION

	<i>Potentially Significant Impact</i>	<i>Potentially Significant Unless Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	9	9	9	:
b) Does the project include recreation facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	9	9	9	:

Explanation:

- a) **No Impact.** The project would not result in increased the use of existing neighborhood and regional parks or other recreational facilities.
- b) **No Impact.** The project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

XV. TRANSPORTATION/TRAFFIC. *Would the project:*

	<i>Potentially Significant Impact</i>	<i>Potentially Significant Unless Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Cause an increase in traffic which is substantial in relation to existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ration on roads, or congestion at intersections)?	:	9	9	9
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	9	9	:	9
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	9	9	9	:
d) Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	9	9	9	:
e) Result in inadequate emergency access?	:	9	9	9
f) Result in inadequate parking capacity?	:	9	9	9
g) Conflicts with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	9	9	9	:

Explanation:

- a) **Potentially Significant Impact.** Temporary lane closures would be necessary along the south side of Trimble Road/Montague Expressway during construction to replace the existing single-circuit wood pole transmission line (PEA, 1998). A lane closure could significantly increase traffic congestion which could overload the capacity of the remaining open lanes. This issue will need to be more completely addressed in the EIR.
- b) **Less than Significant Impact.** The 45 construction workers commuting to and from the construction sites could cause a short-term slight increase in traffic in the project area. The workers will be dispersed throughout the project area and rarely work together at one time and place. This temporary increase in local traffic volumes is considered less than significant.
- c) **No Impact.** The project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location.
- d) **No Impact.** The project would not substantially increase hazards to a design feature or incompatible uses.
- e) **Potentially Significant Impact.** Temporary lane closures would be necessary along the south side of Trimble Road/Montague Expressway during construction to replace the existing single-circuit wood pole transmission line (PEA, 1998). A lane closure could significantly degrade emergency response time. This issue will need to be more completely addressed in the EIR.
- f) **Potentially Significant Impact.** Construction worker vehicles could fill available public parking spots impacting the parking capacity of the project area. This issue will need to be more completely addressed in the EIR.
- g) **Potentially Significant Impact.** The potential for the project to conflicts with adopted policies supporting alternative transportation is not anticipated to be significant, but the issue will need to be more completely researched in the EIR.

XVI. UTILITIES AND SERVICE SYSTEMS. <i>Would the project:</i>	<i>Potentially Significant Impact</i>	<i>Potentially Significant Unless Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	9	9	9	:
b) Require or result in the construction of a new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?	9	9	9	:
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, construction of which would cause significant environmental effects?	9	9	9	:
d) Are sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	9	9	:	9
e) Has the wastewater treatment provider which serves or may serve the project determined that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	9	9	9	:
f) Is the project served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	:	9	9	9

Explanation:

- a) **No Impact.** The project operation would not generate any substantial amount of wastewater and therefore would not exceed wastewater treatment requirements of the Regional Water Quality Control Board.
- b) **No Impact.** The project would not require or result in the construction of a new water or wastewater treatment facility or expansion of existing facilities.
- c) **No Impact.** Project operation would not result in the consumption of a significant amount of water and would not generate a significant amount of wastewater. The project would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities.

- d) **Less Than Significant.** Water for dust suppression would be used during all non-water body construction phases. The only post-construction demand for water would be for domestic use by PG&E personnel (PEA, 1998). It is anticipated that sufficient water supplies are available to serve the project from existing entitlements and resources.
- e) **No Impact.** Wastewater discharge for the proposed substation site would be achieved via a sewer line connection to existing lines along Zanker Road (SPEA, 1999) and would not significantly increase volume to the wastewater treatment provider (WPCP).
- f) **Potentially Significant Impact.** During construction of the Proposed Project (especially demolition of existing buildings on the proposed substation site), solid waste disposal providers could experience a potentially significant increase in demand for solid waste disposal. This issue will need to be more completely researched in the EIR.

XVI. MANDATORY FINDING OF SIGNIFICANCE.

	<i>Potentially Significant Impact</i>	<i>Potentially Significant Unless Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or pre-history?	:	9	9	9
b) Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?	9	9	9	:
c) Does the project have impacts that are individually limited, but cumulatively considerable? (Cumulatively considerable means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	:	9	9	9
d) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	:	9	9	9

Explanation:

- a) **Potentially Significant Impact.** See Section IV (Biological Resources)
- b) **No Impact.** The project does not have the potential to achieve short-term, to the disadvantage of long-term, environmental goals.
- c) **Potentially Significant Impact.** The loss of prime agricultural land would contribute to a cumulatively considerable impact (see Section II, Agricultural Resources). In addition, the construction of the proposed project could cause cumulative construction and/or operational impacts in conjunction with other probable future projects in the vicinity of the proposed transmission line and substation facility. The area is experiencing extremely rapid growth and development and the cumulative impacts of this development with the proposed project will require evaluation.
- d) **Potentially Significant Impact.** The project may have environmental effects which could potentially cause substantial adverse effects on human beings, either directly or indirectly. see Sections I (Aesthetics), II (Agricultural Resources), III (Air Quality), VI (Geology and Soils), VII (Hazards & Hazardous Materials), VIII (Hydrology & Water Quality), IX (Land Use and Planning), XI (Noise), XII (Population and Housing), XIII (Public Services), and XV (Transportation/Traffic).

XVII. EARLIER ANALYSES.

The Applicant, PG&E, has prepared a document on the project - Proponent's Environmental Assessment, Northeast San Jose Transmission Reinforcement Project, June, 1998.

XVIII. REFERENCES.

PEA, 1998. PG&E's Proponent's Environmental Assessment, Northeast San Jose Transmission Reinforcement Project, June.

Supplemental PEA, 1999. PG&E's Supplemental Proponent's Environmental Assessment, Northeast San Jose Transmission Reinforcement Project. September.

APPENDIX 3.

LAND USE POLICY CONSISTENCY ANALYSIS

APPENDIX 3: POLICY CONSISTENCY ANALYSIS

The following sections present the analysis of the project's compliance with local, State, Federal, and regional land use policies. This analysis is summarized in Section C.7.1.3, Land Use and Public Recreation.

Applicable Regulations, Plans, and Standards

Different portions of the proposed project would be located within the planning jurisdictions of two cities—Fremont and San Jose—and Santa Clara County. Due to its close proximity to San Francisco Bay, a portion of the alignment would be subject to San Francisco Bay Conservation and Development Commission jurisdiction. The preferred alignment would also pass immediately adjacent to the San Francisco Bay National Wildlife Refuge and would pass through an area that is planned for future inclusion in the refuge; the project would therefore be subject to plans and policies applicable to the refuge, administered by the U.S. Fish and Wildlife Service. Although the local governments have no discretionary authority over utility projects, the CPUC will comply with local regulations to the extent feasible. Therefore, both the legally binding federal and State regulations and the non-binding local regulations are discussed in this section. The CPUC will consider the consistency of the Proposed Project with local plans and policies during review of this EIR and prior to making a decision on whether or not to approve the Proposed Project or one of its alternatives.

1 FEDERAL REGULATIONS

1.1 U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (Corps) has jurisdiction over all waters of the U.S., which include oceans, lakes, streams, wetlands, tributaries to navigable waters of the U.S., and other water bodies. Within San Francisco Bay, the Corps' jurisdiction extends to all bayshore areas at elevations lower than mean high tide, including currently dry wetlands that historically were below mean high tide. The Corps is legally charged with the administration of a variety of federal permits, including the Section 404 permit required for the Proposed Project. See Section C.6, Hydrology and Water Quality, for a additional discussion of the Section 404 permit and the Corps' role in the permitting process.

1.2 U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (U.S. EPA) is charged with administering the Clean Water Act and the permitting system that includes the Section 404 permit required for the Proposed Project. The U.S. EPA developed, and revises as warranted, the environmental guidelines used by the Corps of Engineers in its issuance and enforcement of Section 404 permits. The U.S. EPA retains oversight of the permitting process and can revoke a permit issued by the Corps.

1.3 U.S. Fish and Wildlife Service

Under the Fish and Wildlife Coordination Act of 1958, the Corps of Engineers is required to consult with the U.S. Fish and Wildlife Service (USFWS) prior to issuing a Section 404 permit. The Act requires that all federal agencies consult with the USFWS, the National Marine Fisheries Service (NMFS), and state wildlife agencies (e.g., the California Department of Fish and Game) for activities that affect, control, or modify waters of any stream or other surface body of water.

1.4 Planned Recreational Uses

Juan Bautista de Anza National Historic Trail

In 1990 the U.S. Congress added the Juan Bautista de Anza National Historic Trail to the National Trail System, which is a federal network of trails that follow and commemorate original trails or routes of travel of national historical significance.

The Juan Bautista de Anza trail follows the route taken by its namesake when he led a group of Spanish colonists on an 1,800-mile trek from Sinaloa, Mexico to the San Francisco Bay Area, establishing an overland route into Alta (Upper) California.

The approved historic trail follows the route taken by Anza on his 1775/76 journey through what is today U.S. territory, encompassing 1,210 miles of the total 1,849-mile route. The trail corridor, defined by historical records and archaeological evidence, varies in width, depending on terrain and details of the documented evidence. The trail includes an auto route along major roads and highways that follows or parallels the actual historic route. Historic and interpretive sites are to be located throughout the trail length to interpret the trail's significance. While many segments are on private land and therefore unavailable to the public, it passes through a variety of federal lands and includes more than 160 miles under the jurisdiction of the National Park Service, Bureau of Land Management, U.S. Forest Service, U.S. Fish and Wildlife Service, and Department of Defense (Navy, Army, Air Force). Four miles of the Anza route cross the San Francisco Bay National Wildlife Refuge within Santa Clara County.

In the Proposed Project area, the Anza Trail passes from Sunnyvale east into the Alviso Historic District, describes a loop from the Alviso Marina through the National Wildlife Refuge, and follows Grand Avenue to the Environmental Education Center for the wildlife refuge. The Anza Trail then follows Los Esteros Road to Zanker Road, heads east to Coyote Creek, then continues northward, sharing the alignment for the San Francisco Bay Trail, described in Section C.7.1.3.3. Passing into Fremont and Alameda County, the trail alignment heads well east of the Proposed Project alignment.

2 STATE REGULATIONS

2.1 California Public Utilities Commission

The California Public Utilities Commission (CPUC) is charged with the regulation of all public utilities within the State of California, including electric transmission facilities. The CPUC regulates the terms and rates for service, equipment, practices, and facilities, as well as the issuance of stocks and bonds. As previously noted, the CPUC is the Lead Agency for CEQA review of the Proposed Project and has ultimate authority for project approval.

2.2 State Lands Commission

Cargill leases salt ponds from State Lands Commission. The Proposed Project would require an amendment to the existing leases to permit the construction of support towers within the salt ponds.

3 REGIONAL/LOCAL REGULATIONS

3.1 San Francisco Bay Conservation and Development Commission

By virtue of passing through salt ponds and marshlands, the Proposed Project would be subject to the policies of the San Francisco Bay Conservation and Development Commission (BCDC). Enacted in 1965, the McAteer-Petris Act established BCDC and charged it with preparing a plan for the long-term beneficial use and protection of San Francisco Bay. BCDC was initially established as a temporary agency; a 1969 amendment to the legislation made BCDC a permanent agency and incorporated the policies contained in the San Francisco Bay Plan into State law. Those policies govern the placement of fill in the Bay and regulate development on its shoreline.

The Bay Plan was developed over the course of three years with the assistance of consultants, university academics, and local, State, and federal agencies. Background research for the Plan resulted in the publication of 23 volumes of technical reports, which are available for review in the BCDC offices and selected public libraries.

BCDC is authorized by the McAteer-Petris Act to regulate all Bay filling or dredging in accordance with the provisions of the Act and the policies and standards set forth in the Bay Plan. A permit must be issued by the agency prior to any filling or dredging of the Bay by public or private entities. Although federal agencies are exempt, in accordance with federal policy, they generally comply with state laws and plans if they do not unduly interfere with national purposes or objectives.

The BCDC's area of jurisdiction is defined in detail in the McAteer-Petris Act. In summary, it includes: (a) all portions of San Francisco Bay subject to tidal action, including sloughs and marshlands lying between mean high tide and five feet above mean sea level, tidelands (land lying between mean high tide and mean low tide), and submerged lands (land lying below mean low tide); (b) a shoreline band extending 100 feet landward of and parallel to the shoreline of the Bay; (c) salt ponds; (d) managed wetlands; (e) certain specified waterways subject to tidal action, including (in the project

vicinity) Coyote Creek (and branches) in Alameda and Santa Clara Counties, to the easternmost point of Newby Island.

A basic premise of the Bay Plan is that the Bay is a single body of water, in which changes affecting one part may also affect other parts. Therefore, protection and enhancement of the Bay needs to be done on a regional basis. The Bay Plan contains policies guiding this regional protection and enhancement and area maps that apply these policies to the present Bay and shoreline. Bay Plan policies are based on two guiding objectives:

Objective 1: *Protect the Bay as a great natural resource for the benefit of present and future generations.*

Objective 2: *Develop the Bay and its shoreline to their highest potential with a minimum of Bay filling.*

Consistent with these objectives, the Plan's detailed policies are broken into two major categories: the Bay as a Resource, and Development of the Bay and Shoreline. In the first category, policies pertain to the protection of fish and wildlife, water quality, water surface area and volume, marshes and mudflats, smog and weather, shell deposits, and freshwater inflow. In the second category, there are policies addressing safety of fills; protection of the shoreline; dredging; water-related industry; ports; airports; transportation; commercial fishing; recreation; public access; appearance, design, and scenic views; salt ponds and other managed wetlands; and other uses of the bay and shoreline. While the majority of the policies set forth in the Bay Plan do not directly pertain to the Proposed Project, those that do are identified below and the Proposed Project's consistency with each policy is evaluated.

The following Water Quality policies are relevant to the Proposed Project:

1. *To the greatest extent feasible, the Bay marshes, mudflats, and water surface area and volume should be maintained and, whenever possible, increased. Fresh water inflow into the Bay should be maintained at a level adequate to protect Bay resources and beneficial uses. Bay water pollution should be avoided.*

Consistency: While the pedestals supporting the tower structures located in marshes and salt flats would reduce the water surface area, the number of such structures would be limited, and the amount of aerial surface would be extremely limited relative to the areas in which the structures would be located. The Proposed Project would not substantially alter water surface or volume, and would therefore be **consistent** with this policy.

3. *Shoreline projects should be designed and constructed in a manner that reduces soil erosion and protects the Bay from increased sedimentation through the use of appropriate erosion control practices.*

Consistency: As discussed in detail in Section C.5, Geology, Soils, and Paleontology, and Section C.6, Hydrology and Water Quality, an Erosion and Sedimentation Control Plan would be developed for the project that would stipulate appropriate construction measures to control erosion and sedimentation. Operation of the project would not result in soil erosion. The Proposed Project would therefore be **consistent** with this policy.

- 4. Polluted runoff from projects should be controlled by the use of best management practices in order to protect the water quality and beneficial uses of the Bay, especially where water dispersion is poor and near shellfish beds and other significant biotic resources. Whenever possible, runoff discharge points should be located where the discharge will have the least impact. Approval of projects involving shoreline areas polluted with hazardous substances should be conditioned so that they will not cause harm to the public or the beneficial uses of the Bay.*

Consistency: The potential for polluted runoff during construction would be controlled by implementation of an Erosion and Sedimentation Control Plan, as discussed above. Operation of the project would not generate polluted runoff water. The Proposed Project would be **consistent** with this policy.

The following Water Surface Area and Volume policies pertain to the Proposed Project:

- 1. The surface area of the Bay and the total volume of water should be kept as large as possible in order to maximize active oxygen interchange, vigorous circulation, and effective tidal action. Filling and diking that reduce surface area and water volume should therefore be allowed only for purposes providing substantial public benefits and only if there is no reasonable alternative.*

Consistency: Refer to the analysis of Water Quality Policy 1, above.

- 2. Water circulation in the Bay should be maintained, and improved as much as possible. Any proposed fills, dikes, or piers should be thoroughly evaluated to determine their effects upon water circulation and then modified as necessary to improve circulation or at least to minimize any harmful effects.*

Consistency: Refer to the analysis of Water Quality Policy 1, above. As noted therein, the amount of fill within the Bay would be extremely limited and would not affect water circulation in the Bay in any substantial manner. The Proposed Project would be **consistent** with this policy.

The following Marshes and Mudflats policies pertain to the Proposed Project:

- 1. Marshes and mudflats should be maintained to the fullest possible extent to conserve fish and wildlife and to abate air and water pollution. Filling and diking that eliminate marshes and mudflats should therefore be allowed only for purposes providing substantial public*

benefits and only if there is no reasonable alternative. Marshes and mudflats are an integral part of the Bay tidal system and therefore should be protected in the same manner as open water areas.

Consistency: Refer to the analysis of Water Quality Policy 1, above. As noted therein, the amount of fill within the Bay would be extremely limited and would not eliminate any marshes or mudflats from the Bay. The Proposed Project would be **consistent** with this policy.

2. *Any proposed fills, dikes, or piers should be thoroughly evaluated to determine their effects on marshes and mudflats, and then modified as necessary to minimize any harmful effects.*

Consistency: The Proposed Project's potential impacts on marshes are evaluated in detail in this EIR and mitigation measures have been recommended to reduce and/or offset any potentially significant impacts. Accordingly, the Proposed Project would be **consistent** with this policy.

3. *To offset possible additional losses of marshes due to necessary filling and to augment the present marshes: (a) former marshes should be restored when possible through removal of existing dikes; (b) in areas selected on the basis of competent ecological study, some new marshes should be created through carefully placed lifts of dredged spoils; and (c) the quality of existing marshes should be improved by appropriate measures whenever possible.*

Consistency: Refer to the analysis of Marshes and Mudflats Policy 2, above.

The following Safety of Fills policies pertain to the Proposed Project:

1. *The Commission has appointed the Engineering Criteria Review Board consisting of geologists, civil engineers specializing in geotechnical and coastal engineering, structural engineers, and architects competent to and adequately empowered to: a) establish and revise safety criteria for Bay fills and structures thereon; b) review all except minor projects for the adequacy of their specific safety provisions, and make recommendations concerning these provisions; c) prescribe an inspection system to assure placement of fill according to approved designs; and d) gather, and make available, performance data developed from specific projects. These activities would complement the functions of local building departments and local planning departments, none of which are presently staffed to provide soils inspections.*

Consistency: The Proposed Project applicant will consult with the Commission to determine if review by the Engineering Criteria Review Board is warranted and, if so, will comply with the design safety recommendations of the Board. The Proposed Project would be **consistent** with this policy.

2. *Even if the Bay Plan indicates that a fill may be permissible, no fill or building should be constructed if hazards cannot be overcome adequately for the intended use in accordance with the criteria prescribed by the Engineering Criteria Review Board.*

Consistency: The project applicant has previously constructed projects similar to the Proposed Project within marshes and other waters of the Bay without creating undue hazards with respect to structural stability. There is no reason to anticipate that the design for the Proposed Project will be unable to adequately address potential hazards to the satisfaction of the Engineering Criteria Review Board. The Proposed Project would therefore be **consistent** with this policy.

Although the Bay Plan defines dredging as “excavation or extraction of materials from the Bay,” it generally pertains to maintaining clear navigation channels for water-based transportation activities. The BCDC has indicated that the temporary excavation that would be required in salt ponds and tidal waters would not be subject to most of the Dredging policies of the Bay Plan.¹ However, disposal of spoils, which is addressed in those policies, would be subject to BCDC regulation. This issue is addressed below in the discussion on impacts and mitigation measures. Due to the proposed piers or piles for anchoring support towers, the following Dredging policy would pertain to the Proposed Project:

8. *To protect underground fresh water reservoirs (aquifers): (a) all proposals for dredging or construction work that could penetrate the mud "cover" should be reviewed by the San Francisco Bay Regional Water Quality Control Board and the State Department of Water Resources; and (b) dredging or construction work should not be permitted that might reasonably be expected to damage an underground water reservoir. Applicants for permission to dredge should be required to provide additional data on groundwater conditions in the area of construction to the extent necessary and reasonable in relation to the proposed project.*

Consistency: It is unknown at this time whether the drilling of piers and/or driving of piles would penetrate the Bay Mud cover over fresh water aquifers. Additional hydrological investigation will be required to identify and evaluate the characteristics of any groundwater aquifers beneath proposed tower locations underlain by Bay Mud. For purposes of this analysis, the Proposed Project is assumed to be **inconsistent** with this policy. Refer to Section C.7.2, Environmental Impacts and Mitigation Measures, for additional discussion.

The following Public Access policy pertains to the Proposed Project:

1. *In addition to the public access to the Bay provided by waterfront parks, beaches, marinas, and fishing piers, maximum feasible access to and along the waterfront and on any permitted fills should be provided in and through every new development in the Bay or on the shoreline, whether it be for housing, industry, port, airport, public facility, or other use, except in cases where public access is clearly inconsistent with the project because of public safety considerations or significant use conflicts. In these cases, access at other locations preferably near the project, should be provided whenever feasible.*

¹ Steve McAdam, Deputy Director, San Francisco Bay Conservation and Development Commission, personal communication, March 27, 2000.

Consistency: The proposed project would not impede any existing or probable future access to the Bay, and would therefore be **consistent** with this policy.

The following Appearance, Design, and Scenic Views policies pertain to the Proposed Project:

4. *Structures and facilities that do not take advantage of or visually complement the Bay should be located and designed so as not to impact visually on the Bay and shoreline. In particular, parking areas should be located away from the shoreline. However, some small parking areas for fishing access and Bay viewing may be allowed in exposed locations.*

Consistency: The visual impacts of the Proposed Project are evaluated in detail in Section C.12. While visual impacts have been identified, no mitigation measures are available to reduce those impacts. The Proposed Project would therefore create a visual impact on the Bay shoreline and would not visually complement the Bay. The Proposed Project would be **inconsistent** with this policy.

10. *Towers, bridges, or other structures near or over the Bay should be designed as landmarks that suggest the location of the waterfront when it is not visible, especially in flat areas. But such landmarks should be low enough to assure the continued visual dominance of the hills around the Bay.*

Consistency: The transmission towers for the Proposed Project are not intended to be landmarks for the Bay or shoreline. However, to those familiar with their locations, it may be possible to use them as navigation aids, either from watercraft in the Bay or from land-based positions. While their height will enable them to be seen at locations from which the shoreline may not be visible, their presence will not negate the visual dominance of the hills to the east. The proposed project is deemed **partially consistent** with this policy.

The following Other Uses of the Bay and Shoreline policies pertain to the Proposed Project:

5. *High voltage transmission lines should be placed in the Bay only when there is no reasonable alternative. Whenever high voltage transmission lines must be placed in the Bay or in shoreline areas: (a) New routes should avoid interfering with scenic views and with wildlife, to the greatest extent possible; and (b) The most pleasing tower and pole design possible should be used. High voltage transmission lines should be placed underground as soon as this is technically and economically feasible.*

Consistency: This EIR evaluates a number of alternatives to the Proposed Project that would meet the objectives of the project. However, each reasonable alternative also entails the placement of high-voltage transmission lines in shoreline areas. As detailed elsewhere in this document, the Proposed Project has been designed so as to minimize potential impacts on wildlife and scenic views to the greatest extent possible. While constructing the entire transmission line underground is technically feasible, it would create much greater impacts on biological resources than the Proposed Project and

would be prohibitively expensive. For these reasons, the Proposed Project would be **consistent** with this policy.

6. *Power distribution and telephone lines should either be placed underground (or in an attractive combination of underground lines with streamlined overhead facilities) in any new residential, commercial, public, or view area near the shores of the Bay.*

Consistency: As currently proposed, the Proposed Project would not include any underground segments due to prohibitive cost and unacceptable environmental impacts associated with construction. The Proposed Project would be inconsistent with this policy. However, an alternative is evaluated in this EIR that includes an underground segment of approximately 1.4 miles through Bayside Business Park. If the decision makers elect to implement this alternative, the project would be **consistent** with Policy 6.

Additional Bay Plan policies are established for the project area on Plan Map 7, which covers the South Bay. The Proposed Project alignment would lie east of the salt ponds and managed wetlands designated on Map 7, but could cross tidal marsh designated on Mud Slough. No area-specific policies set forth on Plan Map 7 would apply to the Proposed Project.

3.2 Regional Water Quality Control Board

The San Francisco Bay Regional Water Quality Control Board (RWQCB) is one of nine regional water quality control boards in the State under the direction of the State Water Resources Control Board. The RWQCB is responsible for maintaining and improving water quality in San Francisco Bay and its tributaries. The Proposed Project would require Section 401 Water Quality Certification from the RWQCB or a waiver of Waste Discharge Requirements. These requirements are discussed in more detail in Section C.6 (Hydrology and Water Quality).

3.3 Santa Clara County

General Plan

Land Use Designations

Substation Site. The proposed substation site is located in unincorporated Santa Clara County on a parcel surrounded by the City of Milpitas to the east and by the City of San Jose on all other sides. The site is within the Urban Service Area for the City of San Jose and hence does not have a County land use designation; the County defers to San Jose's designation for the site, which is Light Industrial. Sites within a city's Urban Service Area are generally annexed into that city as part of a development project when a Use Permit is required. While the City of San Jose intends to ultimately annex the substation site, the Proposed Project would be exempt from the requirement for a Use Permit, and annexation would not be part of the project.

General Plan Policies

The *Santa Clara County General Plan*, adopted by the Board of Supervisors on December 20, 1994, charts and provides guidance for the County's future growth and evolution, covering the planning period from 1995 to 2010. The General Plan articulates the County's vision for itself via goals relating to one of four fundamental policy themes underlying the Plan: Social and Economic Well-Being; Managed, Balanced Growth; Livable Communities; and Responsible Resource Conservation. None of the goals pertain directly to the Proposed Project, although the project would help meet the general goal of providing urbanized areas with necessary services and facilities (Livable Communities Goal 5.1).

Policies in the General Plan are presented in four broad categories, with a variety of specific planning issues addressed in appropriate subcategories. The four broad categories are: Countywide Issues and Policies; Rural Unincorporated Area Issues and Policies; Urban Unincorporated Area Issues and Policies; and South County Joint Area Plan. The Urban Unincorporated Area policies apply to the remaining pockets of unincorporated land within city urban service areas (as well as Stanford University lands), and thus are potentially applicable to the Proposed Project. The Rural Unincorporated Area Issues and Policies and the South County Joint Area Plan do not apply to the Proposed Project and were not included in this policy analysis.

Among the numerous Urban Unincorporated Area Issues and Policies, several pertaining to General Land Use Management are particularly relevant to the portion of the Proposed Project within the County's jurisdiction (i.e., the Los Esteros Substation site). General Land Use Management Strategy #2 stipulates that the County does not apply any General Plan designation or classification of prescriptive land uses or densities to unincorporated parcels within cities' Urban Service Areas. Instead, allowable land uses and densities are determined by the applicable city's general plan. This approach reflects the division of authority between the cities and the County under the jointly-adopted Countywide "urban development policies." As previously noted, it is assumed that all urban unincorporated areas will eventually be annexed by the cities, and is therefore appropriate for each city to have authority to guide development on parcels over which it will ultimately have jurisdiction. Although a parcel may not be urban in actual current use, it is treated as such if it is within a city's Urban Service Area. Two General Land Use Management policies further support the County's strategy:

U-LM 6: *County land use and development regulations within a city Urban Service Area shall be generally compatible with the applicable city's general plan designations and accompanying policies.*

U-LM 7: *Subdivisions, use permits and zone changes for unincorporated property within a city Urban Service Area shall conform with the applicable land use and density criteria of the city's general plan.*

Based on these policies and the underlying land use management strategy, the County has indicated that County policies pertaining to the existing agricultural use of the site are not applicable, particularly

since the City of San Jose has designated the site for Light Industrial use.² Nonetheless, all of the Countywide Issues and Policies in the General Plan were reviewed to identify any potential conflicts between the Proposed Project and an adopted County policy. Other than policies pertaining to the preservation of agriculture, no such policies were identified.

Zoning

Substation Site. The substation site is zoned A-20S-bd, which is Agriculture with a minimum lot size of 20 to 160 acres, and a bd-drylands combining district. The minimum lot size depends on slope; because the substation site is level, the minimum lot size is 20 acres. The bd- drylands combining district is applied to drylands adjacent to or near San Francisco Bay to protect recreation values, scientific and educational resources, scenic features, open space, wildlife, the baylands ecology, and to protect people and property from the effects of inundation or earthquake. Development on parcels in a bd-drylands combining district require architectural and site approval and preparation of a geological report. The County has indicated that this overlay is being eliminated from the zoning code, but it was in effect at the time of publication of this EIR.³ The purpose of the Agricultural zoning district is to preserve and encourage the long-term viability of agriculture on lands most suitable for agricultural production. The zoning district is also reserved for open space lands that may be suitable for future urbanization, retaining them in open space until public facilities and services can be economically provided.

Section 4-1.1 of the *Santa Clara County Zoning Ordinance* stipulates the following general criteria for all uses permitted by right or by special approval in A zoning districts:

- a) *The use must be compatible with and not substantially interfere with the continuation of any on or off-site agricultural operation;*
- b) *The use should not be of a sensitive nature that would itself be negatively impacted by any existing or future agricultural use on nearby parcels;*
- c) *The use will not require public urban services or infrastructure, or establishment of special districts or similar entities;*
- d) *The use should be consistent with the rural image of the agricultural area;*
- e) *Any new use should be sited to avoid taking the most viable agricultural lands out of active agricultural production (except as permitted elsewhere in this Article or in Article 36: Special Use Regulations);*
- f) *Any new use should not significantly inhibit the future development of adjacent parcels consistent with General Plan land use designations of nearby cities; and*

² Bill Shoe, Planner III, Santa Clara County, personal communication, April 5, 2000.

³ Bill Shoe, Planner III, Santa Clara County, personal communication, March 27, 2000.

g) The use must clearly enhance the long term viability of local agriculture and agricultural lands.

The Zoning Ordinance identifies a list of agricultural and accessory uses permitted by right in Agricultural zones, as well as lists of uses allowed (a) subject to a special permit; (b) upon securing architectural and site approval; or (c) upon securing a Use Permit and architectural and site approval. Among the uses permitted upon securing architectural and site approval are minor public utilities, while major public utility uses are permitted upon securing a Use Permit and architectural and site approval.

It should be noted that the zoning of the substation site is inconsistent with the City of Fremont's land use designation of the site as Light Industrial. It is County policy for its zoning to be consistent with city general plan designations for properties within their Urban Service Areas, and to re-zone any areas that are not consistent. While annexation of parcels within an Urban Service Area would normally be required as a part of a development application, because the Proposed Project is exempt from the City's and County's discretionary permit requirements, annexation will not occur as part of the Proposed Project. However, Fremont may annex the substation site at any time, at its discretion.

5 CITY OF FREMONT

General Plan

Land Use Designations

230 kV Transmission Line Route. The northern two-thirds of the alignment (from MP 0.0 to approximately MP 4.8) lies within the City of Fremont. The Newark Substation property and the transmission alignment from MP 0.0 to about MP 0.25 is designated General Industrial, with a Commercial-Industrial Overlay. Although the *Fremont General Plan* establishes a 40-foot height limit in this land use category, it provides for City discretion to allow greater heights for projects which provide extraordinary benefits to the City, have unique circumstances or special design that would reduce its impacts in comparison to other projects, or have unique building requirements of a particular industrial use. City staff indicated that these height limits do not apply to electric transmission towers.⁴ In addition to a broad range of industrial, warehousing, distribution, and wholesaling uses allowed within the General Industrial designation, other uses may be allowed which achieve the intent of the General Plan. The Commercial/Industrial Overlay recognizes that land with convenient freeway access presents a special opportunity for retailers with a regional customer base, and is intended to allow large-scale, regional retail uses and shopping centers in industrial districts where the overlay has been mapped.

As the alignment crosses Auto Mall Parkway, it passes into land designated as Restricted Industrial (with Commercial-Industrial Overlay), which is reserved for a wide variety of research and

⁴ Terrence Wong, Junior Planner, Development and Environmental Services Department, City of Fremont, personal communication, March 13, 2000.

development activities, but may include manufacturing if hazardous or nuisance characteristics are mitigated. It may also include warehousing, wholesaling, and distribution if they can be conducted in a manner consistent with the designated area. Large-scale retail and amusement uses are permitted as a conditional use on sites with convenient freeway access and where the proposed use is compatible with the purpose of the industrial area. The height limit for Restricted Industrial uses is the same as applies to General Industrial uses.

South of Cushing Parkway (MP 1.7), the alignment has no designation on the General Plan Land Use Map until about MP 2.6, although it is zoned for agriculture, as discussed below in the discussion on zoning. From about MP 2.6 to MP 2.7, the alignment is designated Institutional Open Space, which is reserved for publicly held land permanently committed to open space uses, including parks, agriculture, recreation, preservation of biological resource values, and natural open space. At MP 2.7 the alignment passes back into Restricted Industrial with a Commercial-Industrial Overlay. It remains in this land use designation, and borders an Institutional Open Space area, until just south of MP 4.1. Between MP 2.7 and MP 4.1, while all of the support towers would be placed on the Restricted Industrial land, at some locations the power lines would pass over the Institutional Open Space areas. South of MP 4.1 the alignment passes into Private Open Space, a designation applied to privately held land that is permanently committed via easement, deed restriction, or other encumbrance to open space uses, as defined above. The alignment remains in the Private Open Space designation to Fremont's incorporation limits, just south of MP 4.8.

A designated bicycle and foot trail runs east of and parallel to the Proposed Project alignment from about MP 0.3 to MP 1.7. This trail is intended to be part of the regional San Francisco Bay Trail, which is discussed below, under Planned Recreational Facilities. Just north of MP 2.7 the alignment crosses the designated trail, then again parallels it, this time along the east side of the trail. At about MP 4.1 the alignment passes west of a junction of three designated bicycle/foot trails, then continues adjacent to the west side of one of these trails until it passes out of Fremont jurisdiction at about MP 4.8.

General Plan Policies

The *Fremont General Plan*, adopted in May 1991 and amended on numerous occasions since, identifies goals, policies, and implementation measures to address and manage housing and employment growth, the high cost of housing, traffic, and pressures on open space. Fourteen Fundamental Goals guide the direction of the City's future and provide a basis for the supporting policies. These goals pertain to the physical and social character of the City, and generally do not apply to the proposed project. However, the following Fundamental Goals are worth noting:

F-7: *An open space frame that includes the hillface, Bay wetlands, and gateways.*

F-12: *Parks, Recreational Facilities, and Opportunities.*

Fremont is divided into ten Planning Areas, including a Hill Planning Area newly established by the current General Plan. The Hill Planning Area, further divided into subareas, includes land outside the City's eastern boundary. The project would be primarily located within the Industrial Planning Area, but would pass through the northeastern corner of the Baylands South Planning Area. In addition to a Citywide land use plan, projections have been made and land use plans adopted for each of the Planning Areas. Projections for the Industrial Planning Area anticipate that two-thirds of the area currently available (i.e., at the time of General Plan adoption) will develop in the next 20 years with a variety of high technology, manufacturing, warehousing, and wholesaling uses. The projections state that intrusions of incompatible uses which would restrict present and future industrial uses should be avoided. Some land on the western side of the Industrial Planning Area may be incorporated in the future into the San Francisco Bay National Wildlife Refuge to the west. The refuge is discussed in greater detail above in Section C.7.1.3.1, Federal Regulations, and in Section C.3, Biological Resources.

The Baylands Planning Area includes lands under the Bay, salt ponds, wetlands, seasonal wetlands, and other uses associated with the Bay and wildlife habitat. The City's solid waste landfill and the National Wildlife Refuge are both located within this Planning Area. With the exception of the landfill and salt ponds, the Baylands Planning Area is protected for habitat and resource conservation uses.

Land Use Element

None of the residential or commercial land use policies or implementation measures in the Land Use Element of the *Fremont General Plan* are applicable to the Proposed Project. Due to the height and locations of the proposed transmission towers (i.e., 95 to 195 feet), the following Industrial Design and Development Policies from the Land Use Element are relevant to the Proposed Project:

Policy LU 3.7: *Building heights shown in Table 3-6 are thresholds which shall be applied to all industrial projects. Thresholds indicate the maximum height permitted under conventional development. However, additional building height may be granted at the City's discretion based on one or more of the following criteria:*

- *Extraordinary benefits to the City*
- *Unique circumstances or special project design which would reduce its impact in comparison to other projects*
- *Unique building requirements of a particular industrial use.*

Consistency: The referenced Table 3-6 identifies a height limit of 40 feet for the General Industrial and Restricted Industrial land use categories. Although the General Plan is silent on the issue of height limits for structures other than buildings, as noted above, the City has indicated that these height limits are not applicable to transmission line support towers. However, even if the height limit is assumed to

apply to the towers, one or more of the cited exemptions would seem to apply to the Proposed Project. The electric power provided by the Proposed Project can be seen as providing extraordinary benefits to the City. Although the towers would not strictly speaking constitute an industrial use, they possess unique requirements that cannot be realized with 40-foot structures. Accordingly, the Proposed Project would be **consistent** with Policy LU 3.7.

Policy LU 3.11: *Portions of areas designated for industrial use west of I-880 are constrained due to underlying geologic conditions (high potential for liquefaction and/or shaking during an earthquake) and/or have biologically sensitive seasonal or other wetlands (see the Health and Safety and Natural Resource Chapters for locations). Early assessment of environmental constraints and resources should be conducted and submitted with applications for development. Early consultation with the City regarding the implications of the environmental assessment for proposed development is recommended.*

Consistency: This EIR evaluates in detail the underlying geologic conditions and the biological resources, including wetlands, of the transmission corridors and substation location. The City was consulted early in the EIR process and the CPUC has responded to concerns raised by the City. Therefore, the Proposed Project would be **consistent** with Policy LU 3.11.

Policy LU 4.3: *Development on land designated Institutional Open Space is limited to compatible recreational and community uses.*

Consistency: The Proposed Project 230 kV transmission line alignment passes briefly through an area designated Institutional Open Space, between approximately MP 2.6 and MP 2.7. No tower structures would be located within this designation. Therefore, the Proposed Project would be **consistent** with this policy.

LU Goal 5: *Public uses on public land*

Policy LU 5.1: *The public designations shall be applied when the public use of a site is different from surrounding land uses.*

Consistency: The General Plan cites specific land uses that are generally designated Public, including utilities, where land is owned by the utility. As noted under Land Use Designations, the Newark Substation, owned by PG&E CO., is currently designated General Industrial. It is assumed that in order to maintain consistency with its own policy, the City will redesignate the substation site as Public at a future date. The Proposed Project **would not affect consistency** with Policy LU 5.1.

Open Space Element

With nearly all of the transmission line alignment within Fremont passing through or adjacent to open space, the City's Open Space Element of the General Plan is particularly relevant. The following policies are pertinent to the Proposed Project:

Objective OS 1.1: *Protection of the Hill Face, ridgeline, and stream corridors*

Policy OS 1.1.1: *Land with environmental resources such as stream corridors shall be conserved.*

Consistency: The proposed alignment passes Coyote Creek at approximately MP 4.8 and would parallel the creek from approximately MP 5.6 to MP 6.7, outside of Fremont's jurisdiction. The creek is protected by earthen levees along this portion of the alignment, and the support towers for the transmission line would be placed west of the levee. The crossing of the creek would entail an overhead span of transmission lines supported by towers to the north and south of the creek crossing, well outside of the creek corridor. The alignment would also cross Agua Caliente Creek at about MP 2.6. The support towers for this crossing would be in the Bayside Business Park parking lot and in Cargill Salt Pond A23 and would not affect creek resources. Only existing roads would be used for maintenance purposes. The stream corridors would be preserved in their current condition and, therefore, the Proposed Project would therefore be **consistent** with Policy OS 1.1.1.

OS Goal 2: *Recognition, protection, and enhancement of significant natural areas and wildlife habitats in the City, including Bay tidal, seasonal, and freshwater wetlands, and open meadows and field.*

Objective OS 2.1: *A National Wildlife Refuge that incorporates and restores Bay wetlands*

Policy OS 2.1.2: *Land uses and activities in areas adjacent to the Wildlife Refuge must be compatible with, and, if possible, should promote the goals of the Refuge.*

Consistency: The Proposed Project alignment would be adjacent to the San Francisco Bay National Wildlife Refuge between roughly MP 0.7 and MP 1.7 and between MP 2.7 and MP 4.1. The portion of the alignment from MP 0.7 to MP 1.7 is currently owned by Catellus Corporation and is part of the proposed Pacific Commons development currently under review by the City. If approved, a condition of approval would be dedication of a wetland preserve on the property that would ultimately be deeded to the National Wildlife Refuge. The transmission line alignment would pass through this future addition to the refuge from about MP 1.2 to MP 1.7. Consequently, about 2.4 miles of the alignment would pass through or adjacent to the Wildlife Refuge. As discussed in more detail in Section C.3, Biological Resources, the presence of elevated power lines within or adjacent to the Wildlife Refuge would pose a flying hazard to migratory birds and waterfowl utilizing the Refuge. Construction of one or more support towers and access boardwalks in future refuge areas could adversely affect habitat and

biological organisms. These uses and activities would not be compatible with the Wildlife Refuge; the Proposed Project would therefore be **inconsistent** with Policy OS 2.1.2.

Objective OS 2.2: *Protection and enhancement of wetlands within the City*

Policy OS 2.2.1: *The City shall take an active role in protecting wetlands. There shall be no net loss of wetlands as a result of development in Fremont.*

Implementation 1: *Early assessment of environmental constraints and resources should be conducted and submitted with applications for development of projects in or adjacent to wetland areas. Early consultation with the City regarding the implications of the environmental assessment for proposed development is recommended. See Land Use Chapter discussion and Policy 3.11 in the Land Use Chapter.*

Implementation 2: *Conditions of development approval shall include measures to protect wetlands, including long-term monitoring and maintenance programs as appropriate. Off-site mitigation should be used only if on-site mitigation is not feasible and if the loss of on-site wetlands is out-weighed by a specific public purpose. The replacement off-site mitigation site should be nearby.*

Implementation 3: *Require that proposed development be compatible with wetlands, both in terms of the allowed uses, and in the arrangement of buildings, parking, landscaping, access, drainage, runoff, and other facilities on the parcel.*

Consistency: As noted in the discussion on Policy LU 3.11, this EIR evaluates in detail the biological resources, including wetlands, of the transmission corridors and substation location. The City was consulted early in the EIR process and the CPUC has responded to concerns raised by the City. However, the placement of at least one tower structure within a wetland area would result in a loss of approximately 60 square feet of wetland [VERIFY]. As discussed in more detail in Section C.3 (Biological Resources), the consultation conducted with the City as part of this environmental evaluation determined that 60 square feet of wetland would be below the City's threshold for application of Policy OS 2.2.1 [VERIFY]. Therefore, the Proposed Project would be **consistent** with this policy.

Objective OS 2.4: *Integration of natural and historic features into new development*

Policy OS 2.4.1: *The City will give special consideration to protecting natural and historic elements in approving designs for new development. Developments should maximize preservation of natural waterways, landmark and heritage trees, wildlife habitats, and other natural and historic features and provide for*

their protection and enhancement during and after construction. Proposed developments should include physical and visual access to natural features and historical sites.

Consistency: The Proposed Project has been designed so as to minimize intrusion into natural waterways and wildlife habitats. As described in detail in Section C.3, Biological Resources, where potential impacts may occur on the natural environment through implementation of the Proposed Project, mitigation measures have been recommended to reduce those impacts to less-than-significant levels [VERIFY]. Accordingly, the Proposed Project would be **consistent** with Policy OS 2.4.1.

Objective OS 2.5: A comprehensive system of trails connecting destinations within Fremont

Policy OS 2.5.2: *Provide public access to major trails, with appropriate staging areas and parking where feasible. Public access points shown on the General Plan are approximate locations. Specific locations of those access points will be determined as part of project approval and shall be provided in new development. Where access is provided, (either as required or as part of project designs), site and building design adjacent to the access point or trail shall also provide for sufficient privacy and a clear boundary between public access and private uses.*

Policy OS 2.5.3: *The City shall use a variety of resources in completing its trail system.*

Implementation 1: *Work with other public agencies to develop paths on existing rights-of-way, such as creeks, flood control channels, Hetch Hetchy and South Bay Aqueduct rights-of-way, and PG&E CO. power line easements, where needed to close gaps.*

Implementation 3: *Require new development to dedicate right-of-way for trails where they are indicated on the General Plan map. The location of trails shown in the Hill Area which do not already exist are conceptual. Exact trail locations will be determined when development projects are proposed.*

Consistency: As noted in the discussion of Fremont land use designations, the Proposed Project alignment closely parallels a bicycle and foot trail designated on the General Plan land use map, and crosses it in several locations. PG&E CO. will cooperate with the City to make its maintenance roads available for public trail use, as appropriate and in accordance with restrictions applicable to the National Wildlife Refuge. The Proposed Project would be **consistent** with this policy.

Objective OS 2.6: A system of regional trails connecting Fremont with neighboring cities and connecting the hills to the Baylands

Policy OS 2.6.1: *The City supports the ABAG Bay Trail, the “Bay Ridge Trail” (East Bay Regional Park District Garin to Mission Peak Trail), Niles Canyon regional trail, and Wildlife Refuge trails.*

Implementation 1: *Assure sufficient right-of-way and improvements for the ABAG Bay Trail along its proposed alignment in Fremont.*

Consistency: As currently planned, the Bay Trail would cross under the proposed alignment several times within Fremont’s jurisdiction, as shown on Figure C.7-3 [INSERT SLIPSHEET]. The trail would also parallel the alignment along the west side of Bayside Business Park and a spur segment would follow the transmission corridor from about MP 0.3 to approximately MP 1.0. PG&E CO. will cooperate with the City of Fremont in providing recreational access along its right-of-way. The Proposed Project would be **consistent** with this policy.

Natural Resources Element

The following policies from the Natural Resources Element of the *Fremont General Plan* are relevant to the Proposed Project:

NR Goal 1: ***Biological resources protected and enhanced***

Objective NR 1.1: ***Protection of wetlands, including watercourses and riparian areas for their critical biological values including their uses as habitat for rare or endangered animals and to maintain connections between habitat units***

Policy NR 1.1.1: *Whenever feasible, natural and semi-natural wetland areas, including riparian corridors, vernal pools and their wildlife habitat shall be preserved or impacts minimized.*

Implementation 1: *Development encroaching on wetland areas, including lakes, ponds, marshes, and vernal pools shall be discouraged. Any development plans for areas that may affect the riparian corridor shall provide for maximum retention of natural plant formations and natural topographic features such as drainage swales and streams.*

Consistency: The Proposed Project has been designed so as to minimize intrusion into wetlands, waterways, riparian corridors, and other wildlife habitats within the transmission corridor. As described in detail in Section C.3, Biological Resources, where potential impacts may occur on the natural environment through implementation of the Proposed Project, mitigation measures have been recommended to reduce those impacts to less-than-significant levels. Accordingly, the Proposed Project would be **consistent** with Policy NR 1.1.1, the guiding goal and objective, and Implementation 1.

Policy NR 2.2.4: *Avoid disruption of grassed and naturalized areas known to provide groundnesting for endangered, threatened or candidate animals.*

Consistency: As discussed in Section C.3, special status wildlife species may be present in some locations along the transmission line corridor. To the extent feasible, the Proposed Project would avoid disturbance of sensitive groundnesting areas. Where the Proposed Project could potentially cause impacts to protected species, mitigation measures have been proposed to avoid or reduce the impacts to less-than-significant levels. [VERIFY] Therefore, the Proposed Project would be **consistent** with this policy.

Objective NR 4.1: *Protect identified mineral resources from incompatible development whenever feasible and consistent with the City's long range development plans*

Policy NR 4.1.1: *Consider mineral resource values prior to approval of land uses in the vicinity of the mineral resource area that could affect the future availability of the resource..*

Implementation 2: *Advise Planning Commission and City Council of mineral resource deposits for any development project proposed within approximately 100 yards of the identified resource. Evaluate impact of project on the resource during any project review or environmental assessment process.*

Consistency: The project alignment would pass through several producing salt ponds managed by Cargill Corporation. Salt is considered one of the City's important mineral resources. It is anticipated that three twin-legged support towers would be constructed within salt ponds A22 and A23. Construction of the towers would temporarily disturb the salt beds in a limited area. Two 5-foot by 5-foot pedestals supporting each tower would protrude above the salt flats, thus displacing a small amount of salt production area. Relative to the area dedicated to salt production, this loss would be insignificant. The Proposed Project would not substantially affect future salt production. The potential impact of the Proposed Project on this mineral resource was previously evaluated in the *Supplemental Proponent's Environmental Assessment* (September 1999). Therefore, the Proposed Project would be **consistent** with Policy NR 4.1.1 and Implementation 2.

NR Goal 5: *Conservation of productive soil resources for agricultural uses*

Objective NR 5.1: *Continued agricultural or rangeland use in areas not proposed for urban development*

Policy NR 5.1.1: *Promote continued productive agricultural production in areas not proposed for urban development.*

Consistency: Although the salt production ponds constitute a mineral resource, they are considered an agricultural land use by the City and are designated Agriculture on the General Plan Land Use Map. The Proposed Project would not affect production in the salt ponds, and therefore would be **consistent** with Policy NR 5.1.1.

Objective NR 6.3: *Minimum feasible erosion from urban development*

Policy NR 6.3.2: *Appropriate control measures shall be required to limit erosion during and immediately subsequent to new construction.*

Consistency: The Proposed Project would contain appropriate erosion and sedimentation control measures to limit erosion during and following construction, as described in Section C.6, Hydrology and Water Quality. The Proposed Project would therefore be **consistent** with Policy NR 6.3.2.

Objective NR 13.1: *Preservation of the visual character of the City's Open Space frame and other unique natural visual elements of Fremont. The Frame includes the Hill Face, Bay lands, Alameda Creek flood control channel and adjacent publicly owned open space areas (Ardenwood Regional Park, Alameda Creek Quarries). Other unique natural elements include Central Park and Lake Elizabeth and Landmark Trees.*

Policy NR 13.1.1: *Seek permanent protection of unique visual elements within the City. Minimize any negative development impacts on the visual characteristics of the resource when permanent protection is not feasible.*

Implementation 1: *Prepare and adopt guidelines for visual impact assessments. Conduct a visual impact assessment of any proposed public or private project on an identified visual resource. Mitigate negative visual impacts to the degree feasible.*

Consistency: This EIR contains a visual impact assessment of the Proposed Project (see Section C.12). As noted therein, the Proposed Project would result in significant visual impacts on the Bay lands in which the project would be located. Accordingly, the Proposed Project would be inconsistent with Policy NR 13.1.1, but because visual impacts would be mitigated to the degree feasible, the Proposed Project would be **consistent** with Implementation 1.

Objective NR 13.3: *A high quality visual environment*

Policy NR 13.3.1: *Reduce the visual impacts of signs, utility lines and poles.*

Implementation 2: *Continue to promote undergrounding of utilities, and require undergrounding of utilities in new development.*

Consistency: The power line support towers have been designed to minimize visual impacts to the greatest extent practical while still providing sufficient structural support. The one- and two-leg structures are substantially less visually intrusive than used on many existing 230-kV transmission lines, such as the 230-kV Newark-Metcalf transmission line, which is supported on four-legged towers with multiple cross-braces. While the City supports undergrounding of the proposed transmission line, the cost would be prohibitive and, within the present alignment, would create much greater impacts on vegetation, wildlife, and wildlife habitat. The Proposed Project does not represent new development, but rather necessary infrastructure to support existing and anticipated development in the project area. Based on the above considerations, the Proposed Project would be **consistent** with Policy NR 13.3.1 and Implementation 2.

Objective NR 14.1: *Visual access to scenic resources from designated scenic routes*

Policy NR 14.1.1: *The following routes are designated scenic routes for the City of Fremont: I-680, State Route 84 through Niles Canyon, State Route 84 from the western City limits to I880, Mission Boulevard, Paseo Padre Parkway, Fremont Boulevard, Mowry Avenue, Stevenson Boulevard, Warm Springs Boulevard, and Washington Boulevard. The BART alignment is also considered a scenic route (see Figure 9-9).*

Policy NR 14.1.2: *The impacts of development on the scenic character of scenic routes and on the routes' visual access to scenic resources shall be considered prior to approval of industrial and commercial projects adjacent to scenic routes.*

Implementation 1: *Visual impact assessments shall be conducted for projects over two stories high adjacent to a scenic route. Guidelines for scenic impact assessment shall be prepared.*

Implementation 2: *Proposed uses that could have a negative impact on the quality of the visual character of an area adjacent to a scenic route shall be required to screen or in other ways limit the visual impacts of the use.*

Consistency: The Proposed Project transmission towers and lines would be visible from I-880, one of the City's designated scenic routes, and may be visible from other designated scenic routes. (The referenced General Plan Figure 9-9 indicates that Fremont Boulevard is designated a scenic route only east of I880. Although I880 is not included in the list of scenic routes in Policy NR 14.1.1, it is shown as such on General Plan Figure 9-9.) The visual impacts of the Proposed Project are addressed in detail in Section C.12. The options for reducing the visual impacts of a transmission line are limited. However, the support towers would be painted gray, which would help them to blend into the shoreline environment to the greatest degree possible. Since visual impacts have been assessed and reduced to the extent feasible, the Proposed Project would be **consistent** with Policy NR 14.1.2 and the supporting implementation measures.

Health and Safety Element

Objective HS 1.1: *Development which responds to and minimizes geologic hazards*

Policy HS 1.1.2: *Require proposed new development in areas of potential geologic hazard identified in Figure 10-1, Figure 10-3, and Figure 10-5 of this General Plan to evaluate geologic hazards and sufficiently mitigate hazards through site planning, appropriate construction techniques, building design and engineering.*

Consistency: Figure 10-3 of the General Plan shows the project alignment to be within areas of groundshaking potential ranging from moderate to severe and in areas of liquefaction potential ranging from variable to moderate to high. The geologic hazards associated with the Proposed Project are evaluated in detail in Section C.5, Geology, Soils, and Paleontology, and measures are recommended to mitigate identified potential impacts. Therefore, the Proposed Project would be **consistent** with Policy HS 1.1.2.

Objective HS 2.1: *Development which responds to and minimizes the hazards related to expected seismic activity*

Policy HS 2.1.1: *Locate development to minimize potential damage resulting from seismic activity.*

Implementation 1: *Continue to comply with the provisions of the Alquist-Priolo Act and other seismic safety criteria established by the City of Fremont. Required geotechnical studies shall include a determination of the location of a fault (if on site), and an analysis of the site response to potential ground shaking. Continue to prohibit construction of structures for human occupancy (as defined by the State) within at least 50 feet of an identified fault trace as required by State law. In addition, the construction of attached garages within 50 feet of an identified fault trace is prohibited.*

Implementation 2: *Require site specific soils, geologic and/or geotechnical engineering studies prior to development approval of sites in areas identified with moderate to high (S4) or Severe Shaking Potential (S5) shown on Figure 10-3 of the General Plan, Groundshaking and Liquefaction Potential Map.*

Implementation 3: *Require site specific soils, geologic and/or geotechnical engineering studies prior to development approval of sites in areas identified as L3(w), L4 or L5 as shown on Figure 10-3 of the General Plan, Groundshaking and Liquefaction Potential Map.*

Consistency: The Proposed Project alignment would be located in areas designated S4, S5, L4, and L5 on Figure 10-3. Site-specific geotechnical studies will be prepared for the project prior to construction. Therefore, the Proposed Project would be **consistent** with Policy HS 2.1.1 and the supporting implementation measures.

Policy HS 2.1.2: *Maintain construction and soil engineering standards which minimize earthquake danger to building occupants.*

Implementation 1: *Continue to require appropriate engineering and design mitigations for structures to minimize seismic hazards.*

Consistency: As discussed in detail in Section C.5, Geology, Soils, and Paleontology, engineering and design mitigation measures have been recommended to minimize seismic hazards to the project. Therefore, the Proposed Project would be **consistent** with Policy HS 2.1.2 and Implementation 1.

Policy HS 2.1.3: *Locate critical facilities and systems vital to the public health and safety (e.g., water, power and waste disposal systems, police and fire stations, hospitals, and communication facilities) away from areas of greatest land instability, and design such facilities to mitigate any seismic or geologic hazards associated with the development site.*

Implementation 2: *Continue to require new roads, bridges and utility lines crossing active fault traces be designed and developed in a manner to minimize damage from seismic or geologic hazards..*

Consistency: The Proposed Project would not cross any active faults and would be designed to mitigate site-specific seismic and geologic hazards. Therefore, the Proposed Project would be **consistent** with Policy HS 2.1.3 and Implementation 2.

Other Elements

None of the goals, objectives, or policies contained in the Housing, Local Economy, Public Facilities, Transportation, or Parks and Recreation elements of the *Fremont General Plan* are applicable to the Proposed Project.

Zoning

230 kV Transmission Line Route. From MP 0.0 to about MP 0.6 the transmission line alignment is zoned General Industrial, as is the existing Newark Substation at MP 0.0. As with the General Industrial land use designation, there is a 40-foot building height limit in this zoning district, which does not apply to transmission lines and support towers.⁵ The purpose of the General Industrial zoning

⁵ Terrence Wong, Junior Planner, Development and Environmental Services Department, City of Fremont, personal communication, March 16, 2000.

district is to provide areas for general industrial, manufacturing, wholesale, and other related commercial and service uses needed by the City and the region.

South of MP 0.6 the alignment passes into land designated as Planned District, which is intended to encourage desirable developments of mixed land uses, varied dwelling types, or variations in siting. Although it passes briefly through another General Industrial district, the alignment remains primarily in Planned District zoning until MP 1.7. South of MP 1.7, the alignment is zoned Agriculture, with a Flood Combining district. Agricultural districts are intended to preserve land best suited for agricultural use, protecting it from the encroachment of incompatible uses. The Agricultural district has a minimum lot size of 5 acres. The Flood Combining district adds additional land use and structural regulations to the underlying zoning district that are intended to prevent property damage from flooding and to safeguard the health, safety, and general welfare of people in areas subject to flooding and inundation. Southeast of MP 2.5, approximately 350 feet of the alignment is zoned Open Space. The purpose of this district is to encourage the clustering of dwelling units in order to preserve and enhance the limited and reasonable use of open space lands as a limited and valuable resource.

From a few hundred feet northeast of MP 2.7 to MP 4.1, the alignment is zoned Restricted Industrial. This district provides areas devoted to research and development activities, such as product development, engineering, sales, administration, light manufacturing, and wholesale uses. It imposes the same height restrictions as the General Industrial district. South of MP 4.1, the alignment passes back into an Open Space (Flood Combining) district bordered on the east by land zoned Restricted Industrial. The remainder of the alignment within the City of Fremont is zoned Open Space (Flood Combining).

Park Proposal

A City recreation park is currently planned adjacent to the northern end of the transmission line alignment, immediately south of Auto Mall Parkway and west of the alignment. The park is included in a Planned District Development Plan that is currently being considered for adoption by the City as part of the proposed Pacific Commons development, an 840-acre business park, hotel/conference center, and retail/commercial development. The park would provide athletic fields for such outdoor sports as soccer, football, cricket, and/or softball. The park would be between 29 and 60 acres, depending on requirements imposed by the Regional Water Quality Control Board for detention basins.

6 CITY OF SAN JOSE

General Plan

Land Use Designations

230 kV Transmission Line Route. North of Highway 237, the portion of the Proposed Project alignment in the City of San Jose is within the planning area of the *Alviso Master Plan: A Specific Plan for the Alviso Community*. The alignment passes into San Jose's jurisdiction at about MP 4.8. From

this point to MP 7.2, adjacent to the substation site, the alignment is designated Public/Quasi-Public on the Alviso Specific Plan land use map, as well as on the Alviso Planned Community Specific Land Use Plan (Map 12) of the General Plan. As defined in the Specific Plan and the Alviso Planned Community discussion in the General Plan, this designation is for public land uses such as libraries, community centers, schools, fire stations, post offices, and the City of San Jose/Santa Clara County Water Pollution Control Plant (WPCP) and its buffer lands. Lands used by particular private institutions are also designated Public/Quasi-Public, such as churches and the Alviso Family Health Clinic.

Substation Site. The substation site is designated Light Industrial in the Alviso Specific Plan and on Map 12 of the General Plan. As defined in the Specific Plan and the General Plan, this designation allows a wide variety of industrial uses, such as warehousing, wholesaling, light manufacturing, and industrial service and supply businesses, as long as any hazardous or nuisance effects are mitigated. Only low-intensity uses (i.e., those with low employment densities) are permitted in the Light Industrial area near Coyote Creek in which the substation site would be located, and appropriate screening and landscaping is required, particularly along the Highway 237 frontage. Coyote Creek must be protected from non-point source pollution and other potential negative environmental impacts.

Trimble-Montague Upgrade Alternative. The Montague Substation site is designated Public/Quasi-Public on the San Jose land use map. This designation is similar to the Public/Quasi-Public designation in the Alviso Specific Plan. It is used for public land uses, including schools, colleges, corporation yards, homeless shelters, libraries, fire stations, water treatment facilities, convention centers, auditoriums, museums, governmental offices, and airports. It may also be used for some private entities, including churches, private hospitals and schools, and organizations providing public services, such as gas, electricity, water, and telecommunications. The Public/Quasi-Public designation is generally reserved for existing uses and future uses for which substantial planning has been completed. The substation site is bordered on the east by land designated Industrial Park and on the south by Medium Density Residential, which permits 8 to 16 dwelling units per acre. The City of Milpitas is immediately to the north of the substation site.

West of I-880, the south side of the Montague Expressway, which contains the alignment for the upgraded transmission line, is designated Industrial Park, while the north side is within Milpitas' city limits until Coyote Creek. The Industrial Park designation is an exclusive industrial designation that permits a wide variety of light industrial uses as long as any hazardous or nuisance characteristics can be mitigated through design controls. A limited amount of supportive commercial uses are permitted if they are compatible in scale and design with the businesses they support and are located within a larger industrial building to protect the character of the area. The Industrial Park designation is similar to the City's Light Industrial designation, except that more rigorous performance and design standards are applied, primarily with respect to landscaping requirements.

The Coyote Creek corridor, crossed by the upgrade alignment, is designated Public Park/Open Space. Public Park and Open Space lands are mostly publicly owned open space lands, though access by the public is not necessarily unrestricted. City and County parks, other recreation areas, and the San

Francisco Bay National Wildlife Refuge are open space lands given this designation. It is also applied to non-open space uses such as the County Fairgrounds, PAL Stadium, the Historical Museum, golf course club houses, community centers, and concession facilities. From the creek to the terminus at Zanker Road, the alignment is on land designated Industrial Park on both sides of the Montague Expressway and Trimble Road.

Land Use Policies

The *San Jose 2020 General Plan* was adopted by the San Jose City Council in August 1994 and has been revised on numerous occasions since then, most recently on December 7, 1999. The goals and policies promulgated in the General Plan are organized into categories of City Concept; Community Development; Housing; Services and Facilities; Aesthetic, Cultural, and Recreational Resources; Natural Resources; and Hazards. Each of these categories is further broken down into subcategories. The General Plan policies that are relevant to the Proposed Project are identified below, with a discussion of the Proposed Project's consistency with each policy provided.

Urban Service Area Policies

- 6. It is City, County and LAFCO policy that existing and future urban development should be located within cities. This policy should be implemented through the City's existing agreement with the County which requires that unincorporated properties within the Urban Service Area either annex to the City, if possible, or execute a deferred annexation agreement prior to approval of development. The City should also encourage the County and LAFCO to join in cooperative efforts to seek the annexation of urbanized County pockets within the Urban Service Area.*

Consistency: Although the Proposed Project would not require approval by the City of San Jose or Santa Clara County, it is expected that the unincorporated Los Esteros Substation site would eventually be annexed to the City, in accordance with this General Plan policy and the referenced agreement with the County. Development of the substation site would likely accelerate annexation of unincorporated pocket within the City's Urban Service Area. The Proposed Project would be **consistent** with this policy.

Urban Design Policies

- 7. The City should require the undergrounding of distribution utility lines serving new development sites as well as proposed redevelopment sites. The City should also encourage programs for undergrounding existing overhead distribution lines. Overhead lines providing electrical power to light rail transit vehicles and high tension electrical transmission lines are exempt from this policy.*

Consistency: The Proposed Project would entail construction of high voltage electrical transmission lines. The Proposed Project would therefore be **exempt** from this policy.

11. *Non-residential building height, including all elements of a building whether occupied space or decorative feature, but not roof equipment or screening, should not exceed 45 feet except:*

- *For structures other than buildings, where substantial height is intrinsic to the function of the structures and where such structures are located to avoid significant adverse effects on adjacent properties, height limits may be established in the context of project review. For communications structures (such as towers, antennae, and monopoles, but not buildings) located outside the Downtown Core Area and regulated by the Public Utilities Commission, maximum height may be 100 feet on sites with non-residential or non-urban land use designations, and 160 feet on sites with an existing PG&E CO. substation or high tension line corridor exceeding 200 kV, if all of the following criteria are met:*
 - *The site and structure are located to minimize public visibility.*
 - *The project provides visual amenities, such as landscaping, to off-set the potential visual impacts associated with the project.*
 - *There is adequate evidence that technical necessity requires greater height and, in the case of cellular facilities, the increase in height will result in a reduction in the number of future freestanding monopoles.*
 - *In the Communications Hill area, the maximum height for water storage tower/tanks is 150 feet.*
- *In accordance with the conditions set forth in the Alviso Master Plan, the maximum building height may be 90 feet for planned commercial and industrial development between the Water Pollution Control Plant lands and the Guadalupe River, and on the former Cargill landfill site.*

Consistency: Although the tower structures for the Proposed Project would all be located on sites with non-residential or non-urban land use designations, their substantial height is intrinsic to their function. Accordingly, they would normally be subject to height limits established by the City during project review. Therefore, the height limit that would normally be applicable to the transmission line has not been established. Accordingly, the Proposed Project would be **consistent** with Urban Design Policy 11.

24. *New development projects should include the preservation of ordinance-sized and other significant trees. Any adverse affect [sic] on the health and longevity of such trees should be avoided through appropriate design measures and construction practices. When tree preservation is not feasible, the project should include appropriate tree replacement.*

Consistency: The Proposed Project would not be considered the type of building development that is addressed in this and other Urban Design policies of the San Jose General Plan. However, while the Proposed Project would require the removal of ordinance-sized trees that would create safety hazards in

close proximity to the transmission line, the project applicant would replace removed trees with appropriate substitutes. The Proposed Project would be **consistent** with this policy.

Parks and Recreation Policies

7. *The City encourages the Santa Clara Valley Water District, school districts, the Pacific Gas and Electric Company and other public agencies and utilities to provide for appropriate recreational uses of their respective properties and rights-of-way. Consideration should be given to cooperative efforts between these entities and the City to develop parks, pedestrian and bicycle trails, other open space areas, and recreational facilities and programs.*

Consistency: A Trails and Pathways Corridor along Coyote Creek, around the north end of the Water Pollution Control Plant sludge ponds, and west into the National Wildlife Refuge, is designated on the Scenic Routes and Trails Diagram of the General Plan. An existing unpaved access road follows this alignment; PG&E CO. would purchase a right-of-way for the transmission line and easement along the road from the City for maintenance access. While PG&E CO. is willing to cooperate in sharing its access road, the City is unlikely to allow public access to the sludge ponds bordering the road. However, a second access road lies immediately east of and parallel to the road, separated by a cyclone fence. This road would provide a safer and more viable trail alignment. Nonetheless, PG&E CO. will cooperate in allowing appropriate access to its maintenance roads for recreational uses. The Proposed Project would be **consistent** with this policy.

Trails and Pathways Policies

1. *The City should control land development along designated Trails and Pathways Corridors in order to provide sufficient trail right-of-way and to ensure that new development adjacent to the corridors does not compromise safe trail access nor detract from the scenic and aesthetic qualities of the corridor.*

Consistency: The Proposed Project alignment would closely parallel the City's designated Trails and Pathways Corridor along Coyote Creek, approximately between MP 5.6 and MP 6.7. However, the support structures would be placed on the Bayward side of the levees enclosing the sludge ponds operated by the WPCP, and would not conflict with the trail corridor. The Proposed Project alignment would also cross the trail corridor at about MP 4.9 but, again, no support tower would be placed within the trail right-of-way. The transmission lines would be placed sufficiently high over the trail that they would not intrude into the normal viewshed of trail users. While the periodic placement of the support structures outside the trail right-of-way would not be a positive aesthetic addition to the corridor, the number of poles would be limited (seven poles along a 1.1-mile transmission line segment), and the single- or double-pole design would minimize their visual intrusion. Furthermore, the scenic qualities of the trail corridor are not high when viewing to the west, due to the dominating presence sludge drying ponds. The Proposed Project would not affect the more scenic views to the east of the riparian corridor along Coyote Creek. For these reasons, the Proposed Project would be **consistent** with this policy.

2. *When new development occurs adjacent to a designated Trails and Pathways Corridor, the City should encourage the developer to install and maintain the trail.*

Consistency: The Proposed Project would not draw new people into the project area, which would occur with the type of urban development encompassed by this policy, such as new residential or commercial buildings. These types of development typically generate revenue from which a developer can contribute to the costs of constructing and maintaining a recreational trail. Such developments also consume land that precludes its incorporation into the trail corridor. None of these characteristics would apply to the Proposed Project. The project is therefore **consistent** with this policy.

6. *The incorporation of trails and pathways into lanes used for public and utility purposes is encouraged.*

Consistency: Between approximately MP 5.4 and MP 6.7, the Proposed Project alignment would closely parallel an unpaved maintenance road used by WPCP personnel to access the sludge ponds. It is anticipated that the project sponsor would also utilize this road for infrequent (i.e., annual) transmission line inspection and maintenance. Between MP 5.6 and MP 6.7, this road follows the same alignment as the Trails and Pathways Corridor designated in the San Jose General Plan. It would be up to the City to coordinate with the WPCP in order to utilize the existing maintenance road for part of the future trail alignment. The Proposed Project would not preclude or discourage such use, and would therefore be **consistent** with this policy.

Hazards Policies

2. *Levels of “acceptable exposure to risk” established for land uses and structures based on descriptions of land use groups and risk exposure levels are outlined in Figure 15, “Acceptable Exposure to Risk Related to Various Land Uses,” and should be considered in the development review process.*

Consistency: Land use Group 2 in the referenced Figure 15 includes “vital public utility facilities, such as electric transmission interties (500 kV), network ties (230 kV), and substations...” Group 2 land uses are rated as having an Extremely Low level of acceptable exposure to risk. The potential hazards of the Proposed Project are evaluated in Section C.9, Public Health, Safety, and Nuisance, and will be carefully considered by decision makers prior to deciding whether or not to approve the Proposed Project or one of its alternatives. Consequently, the Proposed Project would be **consistent** with Hazard Policy 2.

Soils and Geologic Conditions Policies

1. *The City should require soils and geologic review of development proposals to assess such hazards as potential seismic hazards, surface ruptures, liquefaction, landsliding, mudsliding, erosion and sedimentation in order to determine if these hazards can be adequately mitigated.*

Consistency: This EIR includes an assessment of soils and geologic hazards at substation and transmission line support tower locations. Additional detailed geotechnical studies will be prepared prior to initiating project construction. It is anticipated that appropriate design features, special structural requirements, and other mitigation measures will be identified to reduce potential geologic hazards to acceptable levels. Consequently, the Proposed Project would be **consistent** with this policy.

2. *The City should not locate public improvements and utilities in areas with identified soils and/or geologic hazards to avoid any extraordinary maintenance and operating expenses. When the location of public improvements and utilities in such areas cannot be avoided, effective mitigation measures should be implemented.*

Consistency: As noted in the discussion on Soils and Geologic Conditions Policy 1, site-specific geotechnical studies will identify potential soils and/or geologic hazards and recommend mitigation measures, including construction and design features, to reduce potential risks to acceptable levels. The Proposed Project would be **consistent** with this policy.

3. *In areas susceptible to erosion, appropriate control measures should be required in conjunction with proposed development.*

Consistency: The project sponsor will prepare an Erosion and Sedimentation Control Plan prior to initiation of construction. This Plan will identify appropriate measures to control erosion during and following construction. Therefore, the Proposed Project would be **consistent** with this policy.

6. *Development in areas subject to soils and geologic hazards should incorporate adequate mitigation measures.*

Consistency: See the analysis of Soils and Geologic Conditions Policy 1, above.

8. *Development proposed within areas of potential geological hazards should not be endangered by, nor contribute to, the hazardous conditions on the site or on adjoining properties.*

Consistency: The mitigation measures for potential geological hazards that would be implemented as part of the Proposed Project would ensure that the project would not be endangered by nor contribute to hazardous conditions on the site or on adjoining properties. The Proposed Project would be **consistent** with this policy.

Earthquake Policies

3. *The City should only approve new development in areas of identified seismic hazard if such hazard can be appropriately mitigated.*

Consistency: See the analysis of Soils and Geologic Conditions Policy 1, above.

4. *The location of public utilities and facilities in areas where seismic activity could produce seismic activity could produce liquefaction should only be allowed if adequate mitigation measures can be incorporated into the project.*

Consistency: See the analysis of Soils and Geologic Conditions Policy 1, above.

5. *The City should continue to require geotechnical studies for development proposals; such studies should determine the actual extent of seismic hazards, optimum location for structures, the advisability of special structural requirements, and the feasibility and desirability of a proposed facility in a specified location.*

Consistency: See the analysis of Soils and Geologic Conditions Policy 1, above.

6. *Vital public utilities as well as communication and transportation facilities should be located and constructed in a way which maximizes their potential to remain functional during and after an earthquake.*

Consistency: The primary purpose behind the construction and design features that would be incorporated into the Proposed Project would be to maximize the ability to resist damage from an earthquake and remain functional during and after an earthquake. The Proposed Project would be **consistent** with this policy.

7. *Land uses in close proximity to water retention levees or dams should be restricted unless such facilities have been determined to incorporate adequate seismic stability.*

Consistency: See the analysis of Earthquake Policy 6, above.

7 ALVISO SPECIFIC PLAN

The *Alviso Master Plan: A Specific Plan for the Alviso Community* (Alviso Master Plan) was adopted by the City of San Jose in December 1998 as a detailed policy and planning document for the Alviso Planned Community, the portion of San Jose north of Highway 237 and generally bounded on the east and west by Coyote Creek and the Guadalupe River, respectively. The Alviso Master Plan supplements the General Plan policies and provides detailed planning direction beyond the scope of the General Plan. The land use and zoning district designations established in the Master Plan for the Alviso Planned Community are addressed, respectively, above under Land Use Designations and below under Zoning Districts. Alviso Master Plan policies pertinent to the Proposed Project are listed below. Although the Los Esteros Substation site is on an unincorporated pocket, it is within the Urban Service Area for the City of San Jose and the Alviso Planned Community, and in accordance with City and County policy, would normally be annexed by the City as part of development approval. Accordingly, the development of the substation site is included in the analysis of the Proposed Project's consistency with Alviso Master Plan policies.

Industrial/Non-Industrial Relationships Objective: *Setbacks and buffers should be established to protect environmental resources (e.g., Coyote Creek) and “sensitive uses” (e.g., residential, day care, and school uses) from potential negative impacts of industrial use.*

Consistency: The proposed Los Esteros Substation, which could be considered an industrial use, would be set back from Coyote Creek approximately 1,000 feet and would not result in any negative impacts on the creek. The Proposed Project would be **consistent** with this policy.

Industrial/Non-Industrial Relationships Policy 2: *The Light Industrial areas located north of State Street and adjacent to Coyote Creek should mitigate potential negative environmental impacts to nearby natural resources.*

Consistency: The Proposed Project substation that would be located on one of the referenced Light Industrial areas would not create negative impacts on nearby natural resources, such as Coyote Creek. Refer to Section C.3, Biological Resources, for a detailed discussion of potential project impacts on natural resources. The Proposed Project would be **consistent** with this policy.

Environmental Protection Policy 1: *All new parking, circulation, loading, outdoor storage, utility, and other similar activity areas must be located on paved surfaces with proper drainage to avoid potential pollutants from entering the groundwater, Guadalupe River, Coyote Creek, or San Francisco Bay.*

Consistency: Although the entire substation site would not be paved, a spill prevention containment and countermeasure pond would be installed within the substation to process all water runoff from the operating areas, thereby preventing pollutants from entering the groundwater or nearby Coyote Creek. Thus, the Proposed Project would comply with the intent of this policy and would be **consistent** with this policy.

Environmental Protection Policy 3: *The riparian corridors adjacent to Coyote Creek and Guadalupe River should be preserved intact. Any development adjacent to the waterways should follow the City’s Riparian Corridor Policies.*

Consistency: The transmission line corridor would be well outside the riparian corridor of Coyote Creek and would have no potential to adversely affect the riparian habitat. The Proposed Project would be **consistent** with this policy.

Environmental Protection Policy 5: *To protect aquatic habitats that receive storm runoff, all new development must comply with adopted City Council policy entitled “Post-Construction Urban Runoff Management.”*

Consistency: The Proposed Project would comply with the provisions of the City’s runoff management policy and would therefore be **consistent** with this policy.

Lands Outside of the Village Area Design Objective: *Given the high visibility of most of this area, development should be attractive; should fit in the context of the larger community; and should reflect some of the elements and materials of seaside styles to contribute to Alviso's sense of place.*

Consistency: The Light Industrial area in which the Los Esteros Substation would be located is specifically referenced in the discussion of this Alviso Master Plan policy. The nature of the substation facilities precludes an attractive design that contributes to the community's sense of place. However, the site is well removed from the residential and office development in and around the Village area that comprises the heart of Alviso. The site is also near the large industrial site containing the treatment facilities for the San Jose/Santa Clara Water Pollution Control Plant. The substation would be consistent in appearance and use with this facility. The Proposed Project would be **partially consistent** with this policy.

Landscaping Policy 3: *Landscaping should be used to screen unattractive uses and soften the effect of taller buildings due to the flood protection requirements.*

Consistency: As presently proposed, the Los Esteros Substation would not include landscaping. The Proposed Project would be **inconsistent** with this policy. If landscaping is added to the project as mitigation and/or a condition of approval, other landscaping policies contained in the Alviso Master Plan would be relevant to the Proposed Project. Those policies are not addressed in this discussion.

Storm Drainage Policy 1: *All new development projects should be evaluated to determine the possible need for additional storm drainage facilities.*

Consistency: The Proposed Project's potential impact on Alviso's storm drainage facilities is evaluated in Section C.10 of this EIR. The Proposed Project would be **consistent** with this policy.

Sanitary Sewer Objective: *Provide for the sanitary sewage needs of existing and future development within Alviso.*

Consistency: Because the Los Esteros Substation would be an unattended, remote-controlled facility there would be no need for sanitary sewer facilities. The Proposed Project would therefore be **consistent** with this policy.

Energy Objective: *Provide adequate electrical and gas service to support future development and encourage a program of energy conservation.*

Consistency: The Proposed Project would ensure continued electrical energy supplies in the project area, including Alviso, and would therefore be **consistent** with and help further this Master Plan objective.

Existing Use Policy 1: *Existing legal uses within the entire Alviso area may remain until a property owner wishes to change uses.*

Consistency: The Los Esteros Substation site is currently devoted to agricultural and residential use. The property owners are hoping to sell the site for subsequent development as an electrical substation by PG&E CO.. Therefore, the Proposed Project would be **consistent** with this policy.

Zoning

230 kV Transmission Line Route. Just south of the Coyote Creek crossing, where the transmission line alignment passes from Fremont into San Jose's jurisdiction, the alignment barely crosses a corner of a parcel zoned R-3-B (Multiple-Family Residential), then passes briefly through land within an A (Agricultural) district. The R-3-B district is for single- and multiple-family dwellings, but also allows a wide range of compatible uses, including schools, museums, libraries, parks, golf courses, child care centers, and more. Additional uses are allowed subject to a Conditional Use Permit, including public utility facilities. The 30-foot height limit stipulated in the Zoning Ordinance for the R-3-B district applies both to buildings and structures, which includes utility poles. The A district is primarily for agricultural uses, and allows residential uses only as incidental to the agricultural use and/or by owners or relatives of the owners of such properties. Conditional uses include public utility facilities, among others. The 35-foot height limit in the A district also applies to buildings and structures.

Continuing south of MP 4.9, the alignment passes into a large M-4 (Heavy Manufacturing) district. This district permits a wide variety of manufacturing, service, storage, distribution, communications, and other uses, with many more uses allowed upon issuance of a Conditional Use Permit, including public utility facilities. A height limit of 45 feet applies to structures in the M-4 district.

From just south of MP 6.4 until just south of MP 7.0, the alignment is zoned I (Industrial Park). Research and experimental laboratories, wholesale sales, warehousing, distribution, public utility, food preparation, equipment repair, office, and certain types of non-hazardous manufacturing facilities are among the various uses permitted in the I district. Many types of commercial and other uses are also allowed, subject to a Conditional Use Permit. The height limit is 45 feet for buildings and other structures. From about MP 7.0 to MP 7.2 the alignment is in an M-1 (Light Manufacturing) zoning district. The M-1 district allows a more restricted (but still broad) range of industrial uses and conditional uses than the M-4 district. Public utility facilities are among the permitted uses. Many potentially hazardous manufacturing operations are explicitly prohibited from the district. A maximum height of 45 feet also applies to the M-1 district. Just east of MP 7.2, the alignment passes into unincorporated Santa Clara County, and is not zoned by the City.

Trimble-Montague Upgrade Alternative. The Montague Substation site and adjacent gas station site are zoned M-4 (Heavy Manufacturing), while the office development to the southeast is zoned I (Industrial Park).

South of Montague, the block between I-880 and O'Toole Avenue is zoned I. Between O'Toole and Zanker Road, all of the parcels are zoned I or M-4, with the exception of one parcel east of Kruse Drive zoned A(PD). The PD (Planned Development) district is combined with a base district and, upon adoption, establishes zoning requirements individually tailored to the area so zoned. All development

within a PD district requires a discretionary PD permit. The adopted PD district defines permitted uses, development densities, and other zoning restrictions.

The north side of Montague between Main Street and Seely Avenue is zoned by the City of Milpitas. The block west of Seely is zoned I by San Jose, as is the next block east, where the project alignment enters Trimble Road. An island in the roadway at the split between Trimble and Montague is zoned A.

8. PLANNED RECREATIONAL USES

The Bay Trail

Passed in 1987, Senate Bill 100 initiated regional planning of, and provided funding for, a network of connected recreational trails encircling San Francisco Bay. The Bay Trail is intended to provide easily accessible recreational opportunities for hikers, joggers, bicyclists and skaters, as well as a beautiful setting for viewing wildlife and learning about the Bay's natural environment. The enabling legislation mandated that the Bay Trail would:

- provide connections to existing park and recreation facilities;
- create links to existing and proposed transportation facilities; and
- be planned in such a way as to avoid adverse effects on environmentally sensitive areas.

In coordination with a planning committee comprised of 34 local elected officials and representatives of business, labor, community organizations, and other regional agencies, the Association of Bay Area Governments (ABAG) developed the *Bay Trail Plan*, which was adopted by ABAG's Executive Board in June 1989. The *Bay Trail Plan* proposes an alignment for the 400-mile-long trail network that consists of spine trails, spur trails, and connector trails. The spine trail encircles the Bay with a continuous recreational corridor that links all nine Bay Area counties, while spur trails provide access to other recreational resources, particularly the Bay shoreline. Connector trails are existing shoreline trails not included in the Bay Trail alignment or trails providing connections to urban centers located inland from the Bay. Most of the connector trails are located in the San Francisco Bay National Wildlife Refuge and are restricted to pedestrians only. Spine trails, on the other hand, may be biking only, hiking only, or hiking and biking trails, depending on location. To date, approximately 210 miles of the Bay Trail have been completed.

Connector trails will also be used to provide links to the Ridge Trail, another regional trail encircling San Francisco Bay primarily via ridgetop trails. The connector trails are an important link to the transportation benefits of the Bay Trail, which will enable bicycle commuters to connect to regional public transportation facilities, including ferry terminals, light-rail lines, bus stops and Caltrain, Amtrak, and BART stations. The Bay Trail will eventually cross all of the major toll bridges in the Bay Area. However, while many segments of the trail will be paved (and will include bike lanes, sidewalks, and city streets signed as bike routes), other segments will consist of dirt trails.

The *Bay Trail Plan* sets forth a variety of policies pertaining to trail alignment, trail design, environmental protection, transportation access, and implementation. Although none of these policies are applicable to the Proposed Project, the Plan also sets forth design guidelines that, among other things, stipulate minimum clearances. The Proposed Project should not encroach on these clearances of existing or proposed trail segments. The applicable clearances vary depending on trail type, as shown below:

Trail Type	Vertical Clearance	Shoulder Width (each side)	Horizontal Clearance (including shoulders)
High-Use Facilities*	10 ft.	2 ft.	12–16 ft.
Multi-Use Paths	10 ft.	2 ft.	14–16 ft.
Bicycle-Only Paths	10 ft.	2 ft.	10 ft.
Hiking-Only Paths	10 ft.	2 ft.	9–12 ft.
Natural Trails or Boardwalks	10 ft.	2 ft.	7–9 ft.

*Separate paths meeting Caltrans Class I Bikeway standards.

The Proposed Project alignment crosses, is coincident with, or runs parallel to various existing or proposed stretches of the Bay Trail. Although the exact alignment of the trail is subject to modifications as local sections are planned and developed by the appropriate jurisdictions, as currently planned the Bay Trail would cross under the Proposed Project alignment several times near the northern end. From about MP 1.0 to about MP 1.7 the Bay Trail would lie west of the transmission line, then would cross east, back under it, at Cushing Road. The trail would then follow Cushing to Fremont Boulevard, turning south to connect up with an existing Bay Trail segment that begins at Warren Avenue and is on top of the levee enclosing the wetland mitigation pond west of Bayside Business Park. This existing segment ends at the southern end of the business park, at the end of Lakeview Boulevard.

South of the business park, the proposed Bay Trail would be adjacent to I-880 until Dixon Landing Road, at which point it would again intersect with the Proposed Project alignment, which it would follow until MP 7.0, at which point it would continue west to Zanker Road, then follow Zanker north around to Los Esteros Road. From Los Esteros Road it would follow most of the NRS Alternative alignment to Highway 237. The segment of Bay Trail that parallels the Proposed Project from about MP 4.9 to MP 6.7 would be located on the east levee of Coyote Creek, while the transmission line would be along the west levee. However, a spur trail to the Bay Trail is proposed along this section of the west levee.

APPENDIX 4.

SUMMARY OF UNDERGROUND TRANSMISSION LINE TECHNOLOGY

APPENDIX 4: UNDERGROUND TRANSMISSION LINE CONSTRUCTION

A. INTRODUCTION

This EIR includes analysis of underground transmission lines as alternatives to the proposed project. These underground alternatives are considered for both 115kV and 230kV transmission lines. As background for readers unfamiliar with underground technology, this Appendix briefly describes underground transmission line technology (Section B), PG&E Co.'s use of underground cables (Section C), and construction techniques for installation of underground cables (Section D).

B. TECHNOLOGY

There are two typical kinds of high-voltage underground transmission systems:

- A “**pipe-type**” system is a system in which the transmission cable is placed inside an oil-filled pipe. The circulating oil is used to control the heat generated in the cables. This system requires installation of an oil pumping station about every 3,000 feet to circulate the oil.
- A **solid dielectric cable system** includes cable of the appropriate size in a PVC duct. The solid dielectric system is installed in a duct bank, which separates the six cables that would be used to carry the 230kV power.

C. PG&E Co.'s USE OF UNDERGROUND TRANSMISSION SYSTEMS

Most of PG&E Co.'s 230 kV underground transmission systems are the oil-filled pipe-type cabling. PG&E Co. has 230 kV underground pipe-type lines installed in San Mateo, San Francisco, Fresno, and Sonoma Counties. This system, because of the circulating oil used for cooling of the transmission cable, is a more complex system to install and maintain than solid dielectric cabling.

PG&E Co. has 230 kV solid dielectric lines installed underground in a number of substations and other major facilities. PG&E Co. states that it has recently re-evaluated the use of solid dielectric cable for 230 kV transmission lines: PG&E Co. engineers inspected installations in other countries, visited manufacturing facilities, and met with manufacturers. PG&E Co. has sent engineers to Japan and Europe, where underground 230 kV solid dielectric cables have been in extensive use for more than 20 years, to study the installation, use and maintenance of these systems. Also, PG&E Co. has sent engineers and representatives to participate in numerous working conferences at the premiere testing facility for this technology in Massachusetts. As a result, PG&E Co. has recently proposed the use of 230kV solid dielectric cable in areas where visual impacts could be significant.

D. CONSTRUCTION PROCEDURES FOR UNDERGROUND TRANSMISSION SYSTEMS

Construction for two types of underground transmission lines are described below: The first is the High Pressure Fluid Filled Pipe Type Cable installation (described in Section D.1). The second type of construction, described in Section D.2, is the Cross Linked Polyethylene Extruded Dielectric Cable (XLPE) or dielectric cable.

D.1 Construction of Pipe Type Cable

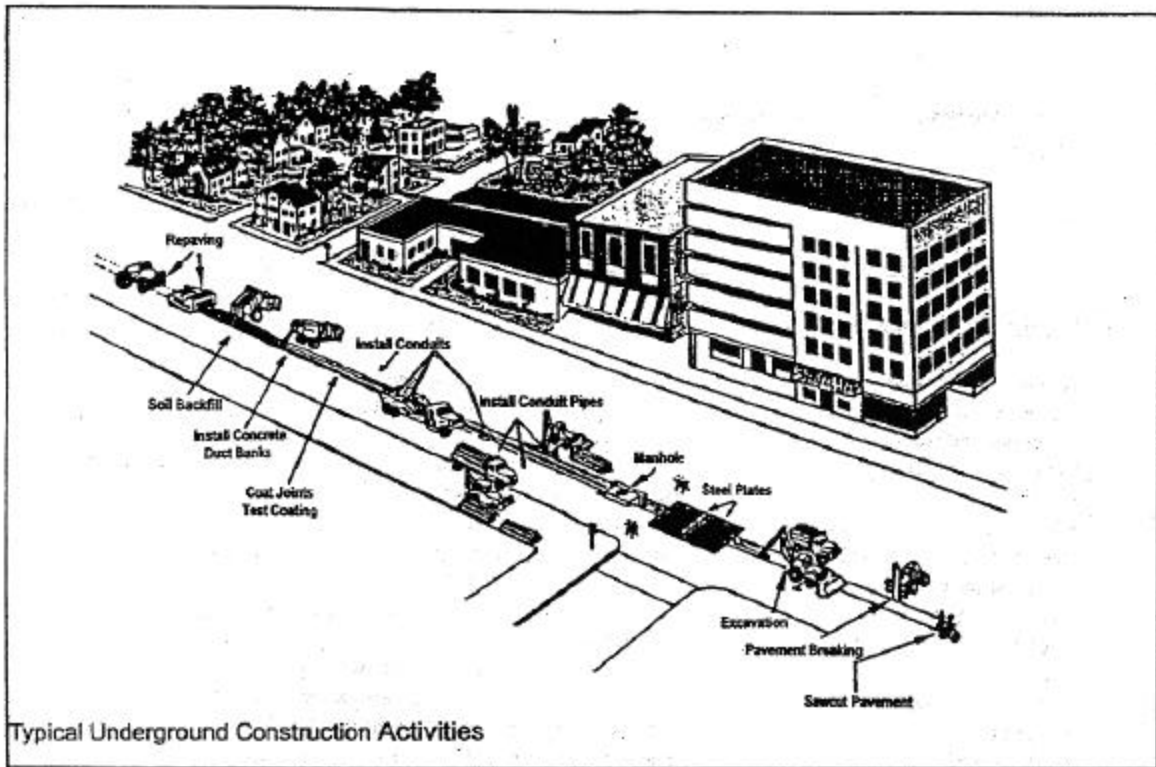
After city permits are obtained and traffic control and safety measures are put in place, the trench alignment is staked out (marked) by surveyors to show where the trench is to be opened. Manhole locations are also staked out.

Trenching. A cross-sectional view of the trench for a pipe type cable installation is shown in Figure Ap.4-1. The construction work begins with cutting the street pavement with concrete saws. The pavement over the trench is broken up into manageable pieces for removal. The trench is then dug to predetermined depths (6-7 ft. average). Spoils from the trench are almost always required to be hauled off and dumped. Most cities do not allow the piling of spoils alongside the trench and most require imported backfill of compactable gradation to be used to fill the trench.

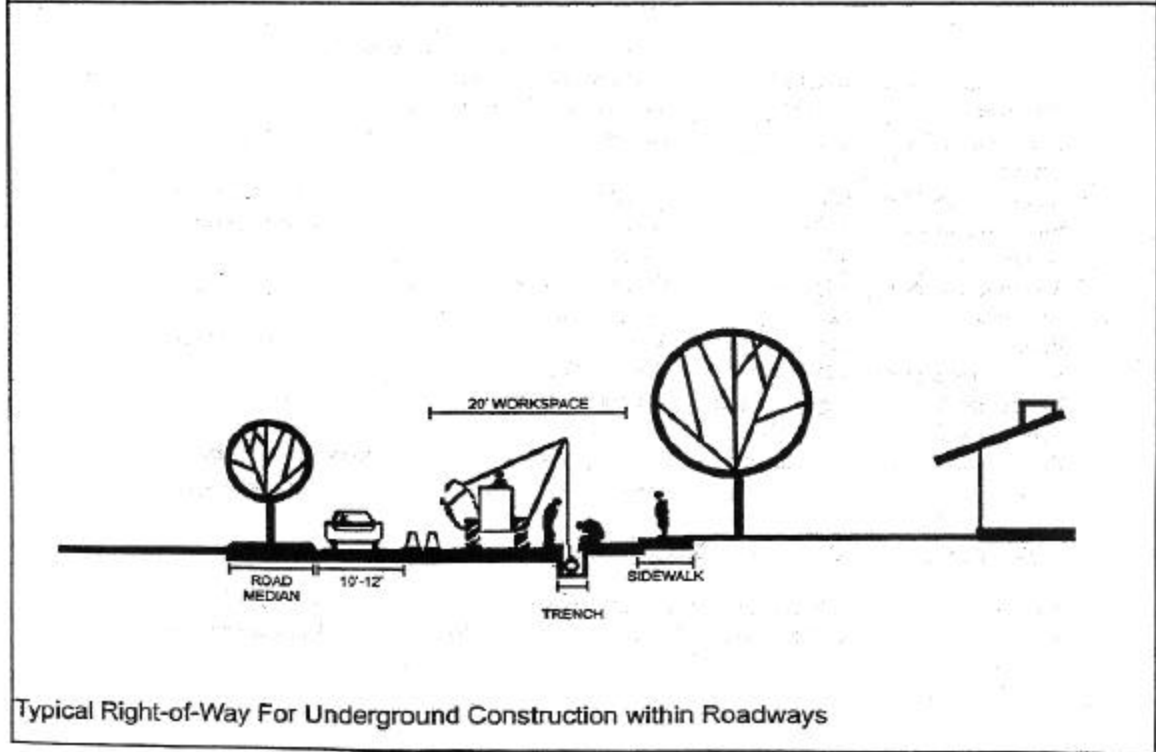
Proper shoring is installed where needed and all safety rules are followed as required by OSHA and local permits in order to prevent cave-ins, property damage, or personal injuries. Steel plates are used to cover open trenches and to carry traffic load when construction is not in progress. Traffic control plans formulated prior to the beginning of construction are followed to minimize adverse traffic impacts.

For pipe type cable installation, two - 10" steel pipelines are installed with approximately a two foot separation in the trench (as shown in Figure Ap.4-2). Thermal select slurry backfill is poured and vibrated in the trench to completely encase the two pipes. This improves heat transfer away from the conductor during circuit operation. A 4" dia. PVC duct is installed in the trench for fiber optic communications and controls. The last phase of trenching work is to repave the road surface in a manner acceptable to the city or agency having jurisdiction.

Typically, the trench line will extend for 500-600 feet or as limited by the city or agency having jurisdiction. The various stages of construction from saw cutting and breaking of pavement to duct installation to backfilling to repaving and cleanup may be limited in distance. As completed sections are being repaved, new trench is being opened. At certain points along the trench, larger excavations are opened for installing manholes for splicing cables.



Typical Underground Construction Activities



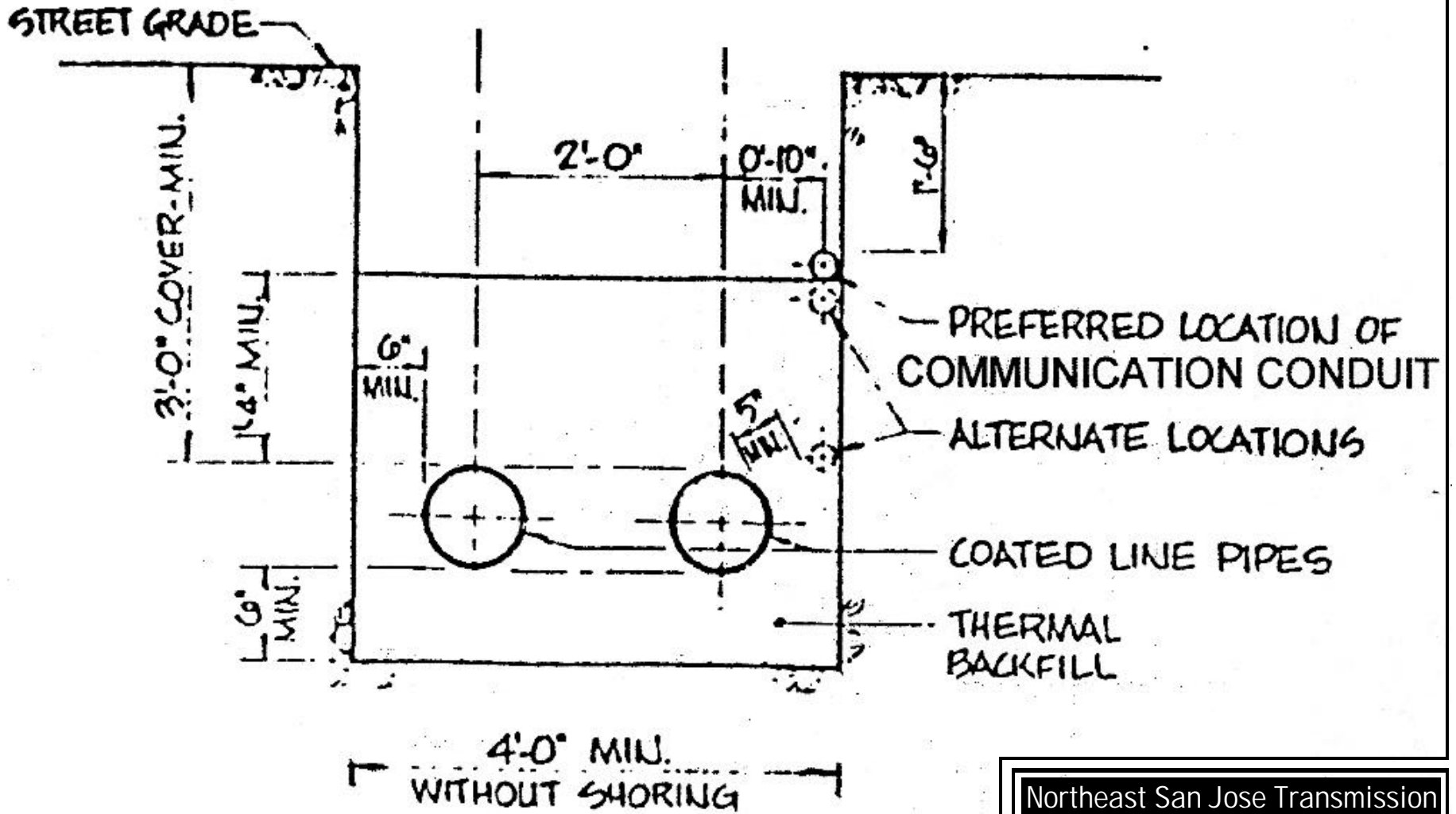
Typical Right-of-Way For Underground Construction within Roadways

Northeast San Jose Transmission
 Reinforcement Project EIR

Figure Ap.4-1

Underground Construction

Aspen
 Environmental Group



Northeast San Jose Transmission
Reinforcement Project EIR

Figure Ap.4-2
Typical Steel Pipe Installation
230kV Double Circuit
Pipe Type Cable

Aspen
Environmental Group

Existing utilities are identified, as much as possible, on maps and potholed (uncovered at specific locations) to verify depths and alignments prior to the start of construction. This procedure does not always locate unidentified pipelines, sewers, telephone ducts and other underground structures that are often encountered during the trenching operation. These unidentified structures are either relocated or the new duct bank must be diverted to avoid the obstruction.

Bored Crossings. Some crossings, such as freeways canals and railroads, cannot be trenched and the conduit must be installed by boring under the crossing. To accomplish this, two bore pits are excavated on both sides of the crossing and a boring machine is set horizontally inside one of the pits. The directional bore method uses a drill similar to an oil well rig but set up at an angle almost horizontal to the ground. A small pilot bore is drilled under the crossing and is reamed to a larger diameter. Drilling mud (bentonite) is used to aid the reaming process, to keep the bore open and to lubricate the bore surface as the casing is pulled through. The boring machine augers under the crossing as it jacks a length of steel pipe known as a casing through the bore. Additional segments of steel pipe are welded to the end of the casing as it is extended under the crossing. The steel conduit for the pipe-type cables is then inserted through the casing using specially designed spacers to separate cable pipes from the casing. Casing sizes can vary between 14 and 84 inches in diameter depending on the cable system, the number of circuits being installed and the length of the bore.

The directional bore method is more appropriate where subsurface conditions are acceptable, the cost for excavation of bore pits and the higher costs of boring long lengths would exceed that of a directional bore or where excavation for a trench would create environmental problems.

Cable Installation. The next phase of underground construction along the route consists of installing cables in conduits and splicing cables in manholes. After all duct bank, bores, splice vaults, and riser structures are completed, work will move into the cable installation phase of the project. Cable pulls would occur in the pipe or duct between splice vaults or riser structures and the nearest splice vault from riser structures where the conductor transitions from underground to overhead. The cable pulling process for pipe type cable consists of:

- Blocking the cable feed-in and cable pulling vault areas and routing vehicular traffic around these areas
- Setting up cable feed-in equipment and the reel trailer at the feed-in vault
- Setting up cable pulling equipment at the opposite vault
- Thoroughly cleaning ducts and installing cable pulling rope
- Pulling 3 - cables simultaneously through 2 - individual ducts (one pull per day)
- Rough cutting cable sections after installation, nightcapping cable ends, evacuating cable sections, and filling to 15 lbs per square inch pressure with dry nitrogen in preparation for splicing
- Cables are individually installed in riser pipes at riser structures
- Cables are also rough cut, cable ends nightcapped, terminal sections evacuated, and filled to 15 lbs per square inch pressure with dry nitrogen in preparation for terminating cable ends.

Splicing of the cables would occur at each splice vault after cable installation is completed between all vaults and riser structures. Splicing would be a 24-hour operation in an air conditioned environment.

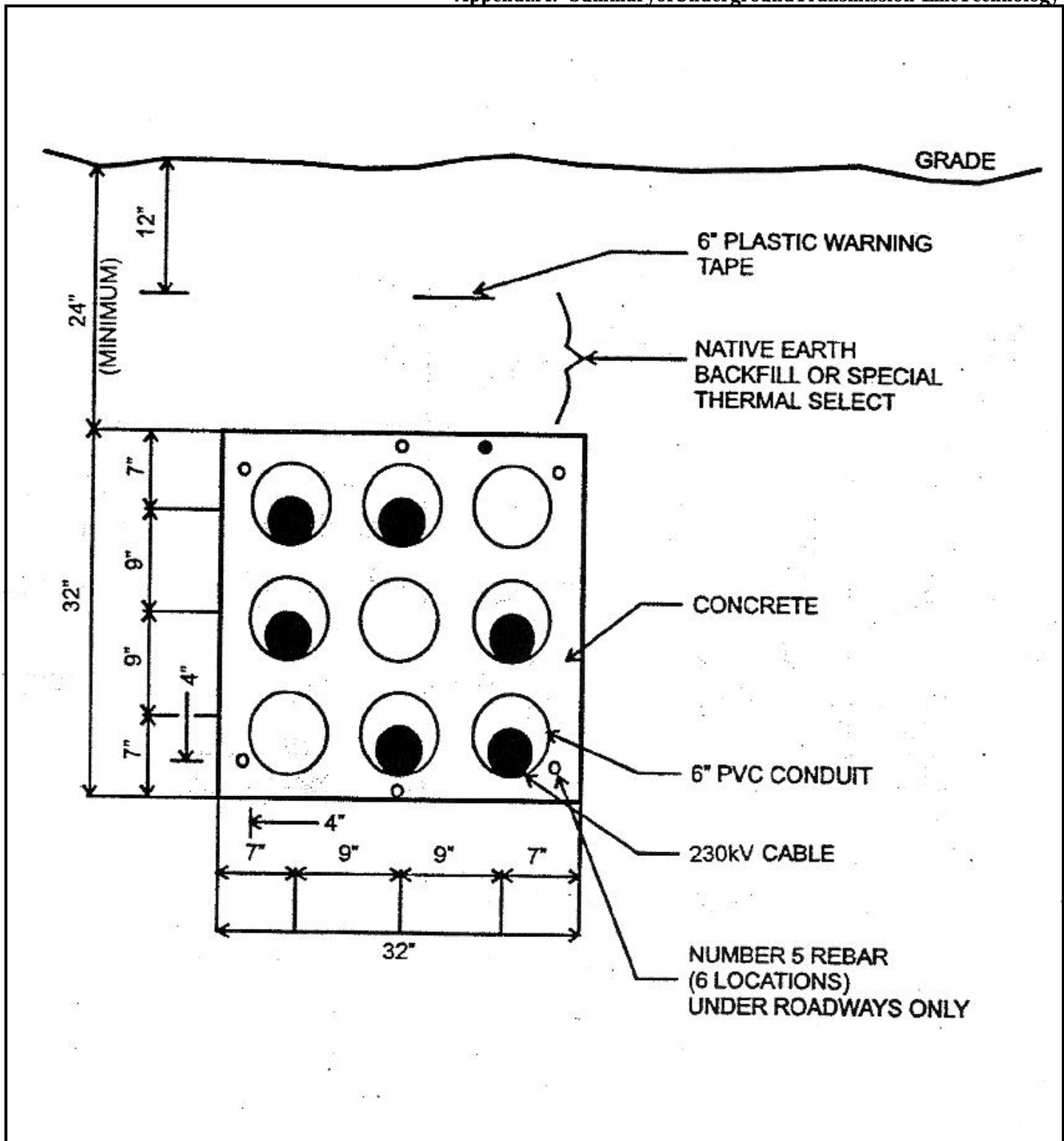
The entire splice would be sealed inside of a welded steel casing. The last step for installation is the evacuation of the pipe, which is then completely filled with cable insulating fluid.

Table Ap.4-1 Construction Equipment for Pipe-Type Cable Installation

Equipment Needed (number of units)	Use of Equipment
¾-ton pickup trucks (3)	Transport construction personnel
1-ton crew truck (1)	Transport construction personnel
2-ton flat bed truck (1)	Haul materials
Flat-bed boom truck (1)	Haul and unload materials
Rigging truck (1)	Haul tools and equipment
Mechanic truck (1)	Service and repair equipment
Winch truck (1)	Installing and pulling rope into position in conduits
Cable puller truck (1)	Pulling transmission cables through conduits
Cement trucks (3)	Transporting and pouring of back-fill slurry
Shop vans (2)	Store tools
Side boom tractors (2)	Lifting and lowering strings of steel pipe
Crawler backhoes (2)	Excavate trenches (excavate around obstructions)
Large backhoe (1)	Excavate trenches (main trencher)
Dump trucks (3)	Hauling of trench and excavation spoils/importing backfill
Large mobile crane (1)	Lifting/Loading/Setting of 20 ton cable reels on trailers
Small mobile crane < 12 tons (1)	Load and unload materials
Transport (1)	Haul structural materials
Cable reel trailers (3)	Transporting cable reels and feeding cables into conduits
Splice trailers 40 ft (2)	Splicing supplies / air conditioning of manholes
Nitrogen trailers (2)	For keeping supply of dry nitrogen for steel pipes
Oil tankers (2)	Filling of line with cable fluid
Air compressors (2)	Operate air tools
Air tampers (2)	Compact soil
Rollers (1)	Repaving streets over trench and manhole locations
Portable generators (2)	Construction power
Horizontal dry boring Equip. (1 set)	For horizontal bores
Directional drilling rig (1)	For directional bores
Pressurizing units for directional rigs (1)	For pumping & maintaining bentonite pressure
De-watering units (1)	For recycling water, bentonite, and separating spoils

D.2. Construction Methods for Solid Dielectric Cable

PG&E Co. provided the following description of installation of a solid dielectric cable system in its Proponent’s Environmental Assessment for the Tri-Valley 2002 Project (PEA, 1999). A cross-sectional view of the dielectric cable installation is shown in Figure Ap.4-3.



Northeast San Jose Transmission
 Reinforcement Project EIR

Figure Ap.4-3
 Typical Duct Bank Installation
 230 kV Double Circuit
 Solid Dielectric Cable

Aspen
 Environmental Group

The duct bank containing the solid dielectric cables would be installed in a trench approximately 3 feet wide and 8 feet deep. The duct bank would have a minimum cover of 32 inches. Approximately every 1,500 feet, splice vaults would be incorporated for installing cables and splicing sections of cables together. Each circuit would be capable of carrying 400 MVA per circuit at the normal conductor rating of 90 degrees centigrade. Cables would rise out of the ground at the transition station and at the terminus of the underground segment, and they would terminate on support structures.

Cable installation would be completed using cut and cover construction (open trenching) of the underground power line, conduits, and duct banks.

For solid dielectric cable installation, nine - 6" PVC ducts are racked in a 3 by 3 arrangement and encased in a concrete envelope (see Exhibit Ap.4-3). Controlled or thermal select backfill is installed and compacted above the duct bank. A 4" dia. PVC duct is installed in the duct bank for fiber optic communications and controls. Finally, the road surface is paved in a manner acceptable to the city or agency having jurisdiction.

Soil sampling and potholing will be conducted before construction. Soil information will be provided to construction crews to inform them about soil conditions and utility locations. If hazardous materials are encountered in soils from the trench, work will be stopped until the material is properly characterized and appropriate measures are taken to protect human health and the environment. Hazardous materials will be handled, transported, and disposed of in accordance with federal, state, and local environmental regulations, including Chapter 6.95 of the California Health and Safety Code and Title 22 of the California Code of Regulations.

Standard erosion and dust control measures will be used during construction. These methods include installation of sediment and erosion control structures according to best management practices (BMPs) to protect biological resources, roadways, and adjacent properties. Watering for dust control will also be employed.

Temporary lane closures along residential streets as required for underground construction would be coordinated with the local jurisdictions. Generally, the traffic control plans and text in the *Work Area Protection and Traffic Control Manual* would be used, conforming to the guidelines established by the Federal and State Departments of Transportation. This manual presents recommendations for basic standards for the safe movement of traffic upon highways and streets in accordance with Section 21400 of the California Vehicle Code. These recommendations include provisions for safe access of police, fire, and other rescue vehicles. In addition, the installer would obtain roadway encroachment permits from the local jurisdictions and will submit a traffic management plan subject to agency review and approval.

Construction Activities. As illustrated in Figure Ap.4-1, the major construction activities associated with installation of underground cable in urban streets are as follows:

- Saw cut the pavement for the trench and splice vaults
- Excavate a trench for the electrical conduit bank
- Haul away and dispose of trenched and excavated spoils
- Install the cable conduit, reinforcement bar, ground wire, and concrete conduit encasement (duct bank)
- Excavate and place pre-formed concrete splice vaults
- Backfill the trench
- Pull cable into the conduit bank and splice at several predetermined locations (vaults) along the route
- Terminate cables at transition structures
- Horizontal bore of one or two steel casings under waterways or major streets
- Restore all paved surfaces, restore landscaping as necessary, and clean up the job site.

Vehicles and Equipment. A dump truck would be on site during excavation activities. As trucks are filled with spoils, they would leave the site and be replaced by empty trucks. The number of truck trips per day would depend upon the rate of the trenching and the size of vault excavation. Jackhammers would be used sparingly to break up any sections of concrete that cannot be reached with the saw-cutting and pavement-breaking machines. Other miscellaneous equipment would include a concrete saw, a pavement breaker, various paving equipment, and pickup trucks.

Trenching. To construct the underground duct bank, the roadway would be temporarily trenched. The width of the work space will be as set forth in the encroachment permit to be issued by the local jurisdictions. The typical trench would be approximately 3 feet wide, with a depth of 6 to 8 feet. A maximum open trench length of 600 feet on each street would be typical at any one time, with provisions for emergency vehicle and local access. Additionally, the trench would be wider or shored where needed to meet Cal/OSHA safety requirements. Prior to trenching, PG&E Co. will notify other utility companies (via the Underground Service Alert or USA) to locate existing underground structures along the proposed alignment.

After the trench route is marked and encroachment permits are obtained, work begins with a concrete saw cutting the trench line. The trench pavement would be broken into manageable pieces for removal and the trench dug to a depth of 6 to 8 feet. At about 12 points along the trench, larger excavations would be opened to install splice vaults. Throughout construction, asphalt, concrete, and spoils would be hauled off by truck to an approved Class III disposal site. Approximately 11,000 cubic yards of asphalt and spoil would be removed, resulting in approximately 1,100 truck trips during excavation.

Vaults. Underground vaults would be installed during trenching for pulling cables and housing cable splices. The vaults would be used initially to pull the cables through the conduits and to splice cables together. During operation, vaults provide access to the underground cables for maintenance inspections and repairs. Vaults would be constructed of steel-reinforced concrete (either prefabricated or cast-in-place), with inside dimensions of approximately 18 feet long, 5 feet wide, and 8 feet deep. The vaults would be designed to withstand the maximum credible earthquake in the area, as well as heavy truck traffic loading.

The vaults will be installed in pairs placed end-to-end and overlapping in order to separate circuits into respective vaults. The circuits are spliced in separate vaults in order for maintenance workers to work safely on a de-energized circuit while the second circuit remains energized. An electrical fault from an energized splice or cable inside of a vault could injure or be fatal to a worker. The total excavation footprint for the pair of vaults would be approximately 40 feet long by 15 feet wide. Installation of each vault would take place over a 3-day period with excavation and shoring of the vault pit being followed by delivery and installation of vaults, filling and compacting a backfill, and repaving of the excavation area.

Equipment Installation. The majority solid dielectric cables can be installed in the three-by-three duct bank configuration (as shown in Figure Ap.4-3) with occasional rolling of ducts into a flat configuration in order to clear substructures in highly congested areas or to fan out to termination structures. The main duct bank will split into two separate duct banks leading into each splice vault. Following trench excavation, nine 6-inch PVC conduits would be racked in a three-by-three arrangement. The underground cables would then be contained within the 6-inch PVC conduit pipes, which themselves would be housed in reinforced concrete duct banks. The 400 MVA load on this circuit would be met using approximately 2500-kcmil copper conductor extruded dielectric (XLPE) cable. To achieve this performance, both circuits would be installed in a common duct bank, with special cross-bonding of cable sheaths to reduce heat generated by sheath losses. When the electrical transmission duct bank crosses or runs parallel to other substructures (which have operating temperatures not exceeding basal earth temperature), a minimum radial clearance of 12 inches is required from these substructures. These types of substructures include electric lines, telephone lines, water mains, storm lines, and sewer lines. In addition, a 5-foot minimum radial clearance is required when the new electrical transmission duct bank crosses another heat-radiating substructure at right angles. A 15-foot minimum radial clearance is required between the electrical transmission duct bank and any paralleling substructure whose operating temperature significantly exceeds the normal earth temperature. Examples of heat radiating facilities are additional underground transmission circuits, primary distribution cables (especially multiple-circuit duct banks), steam lines, or heated oil lines.

Backfilling and Paving. Once the duct bank is installed, thermal-select or controlled backfill will be imported, installed, and compacted. A road base back-fill or slurry concrete cap would then be installed, and the road surface would be restored in compliance with the locally issued permits. While the completed trench line sections are being restored, additional trench line would be opened further down the street. This process would continue until the entire conduit system is in place.

Cable Installation and Splicing. The cable pulling process for solid dielectric cable consists of:

- Blocking the cable feed-in and cable pulling vault areas and routing vehicular traffic around these areas
- Setting up cable feed-in equipment and the reel trailer at the feed-in vault
- Setting up cable pulling equipment at the opposite vault
- Thoroughly cleaning ducts and installing cable pulling rope
- Pulling cable through individual ducts (approximately three pulls per day)
- Rough cutting cable sections after installation and sealing off cable ends with waterproof caps in preparation for

splicing.

Cable will be pulled through individual ducts at the rate of approximately two pulls per day. After cable installation is completed, the cables will be spliced between all vaults and riser structures. A splice trailer would be located directly above the manhole openings for easy access by workers. A mobile power generator would be located directly behind the trailer. The dryness of the vault must be maintained 24 hours per day to ensure that unfinished splices are not contaminated with water or impurities. Normal splicing hours would be 8 to 10 hours per day with some workers remaining after hours to maintain splicing conditions and guard against vandalism and theft. These conditions are essential to maintaining quality control through completion of splicing. As splicing is completed at a vault, the splicing apparatus setup is moved to the next vault location and the splicing is resumed.

Cables installed at riser structures would also be rough cut, the cable ends sealed, and the cable lifted up into position and clamped on the riser structure in preparation for termination of cable ends. Cable ends would be cut to mate and joined together mechanically with connectors and the electrical insulation built up at this connection. Cable ends would then be finished with a waterproof covering.

The splice vault area would be blocked off and vehicular traffic diverted in much the same way as it would be during cable installation. A splice trailer for splice tools and supplies would be located directly above the manhole openings for easy access by workers. A large generator for reliable power supply would be located directly behind the trailer. This setup must remain during the splicing of six phases at each vault and cannot be removed at the end of each workday. The dryness of the vault must be maintained 24 hours per day so that the unfinished splices are not contaminated with water or impurities. The splicing operation normally occurs 8-10 hours per day with workers remaining after hours to maintain splicing conditions and guard against vandalism and theft. These conditions are essential to maintain quality control through completion of splicing. As splicing is completed at a vault, the splicing apparatus is moved to the next vault location and the splicing resumed.

Terminating of the cables would occur at each terminal support structure entirely within the transition station or substation boundaries at about the same time splicing of the cables occur.

Construction Duration. The length of time required for constructing underground cables is dependent on the length and the type of land crossed. For a residential line of about 3 miles, this phase of the project is approximately 13 months. Trenching, installation of the concrete duct bank, and vault installation would be completed within 5 months, while cable installation, splicing, and terminating would require approximately 6 months. Underground construction will require approximately 10 to 20 crew members.

Right-of-Way Requirements. In undeveloped property, the conduit will be placed in the center of a 30-foot easement (to be acquired) that can be placed within a future roadway system. The line operator would will restrict any above ground structure or foundation within the easement. Deep rooted vegetation that could compromise the integrity of the electric system will also be restricted. The easement language will require the property owner to notify the line operator should any change in the overburden depth be contemplated. This is necessary to ensure public safety and system integrity. In developed areas, the underground portion of the transmission line will be placed in city streets and will comply with local jurisdiction franchise agreements.

Horizontal Dry Boring. Because open trenching through flowing waterways is not desirable, horizontal dry boring can be used for underground construction across such waterways. In these cases, up to two steel casings between 30 and 42 inches in diameter will be installed under the creek at least 5 feet below the creek bed or as required by the permitting agency. An area approximately 25 feet by 100 feet would be used at one end of the boring area for laydown and boring. A shored trench of approximately 20 feet deep would be used as a receiving area for the bore casing. In general, a bore would be result in casing placement approximately 5 feet below the creek bed.

Dry boring would begin by digging a bore pit at the sending end and a trench at the receiving end of the bore. The bore pit would be approximately 24 feet by 8 feet wide and would be approximately 20 feet deep. The elevation at the bottom of the bore pit and the receiving trench would be about the same. The horizontal bore equipment would then be installed in the bore pit. The steel casing would be welded in 10- to 15-foot sections and jacked into the bore as the boring operation proceeds.

The actual volume of soil removed from the creek bore is estimated to be approximately 100 cubic yards. All spoils and asphalt would be loaded straight from the bore area onto trucks for removal. At no time would spoils be stored on site. In addition to the boring machinery, a loader, backhoe, and dump truck would be used at both ends of the bore.

The racked PVC conduit bundles would be arranged in a circular pattern. The conduit bundles would be assembled completely before being pulled through the steel casing. Once boring is complete, the trench would be extended to meet the exposed cable at the south end of the bridge where the conduits would be joined together.

The setup for the dry boring operation would require a crew of four, while the operation of the bore would only require two or three crew members. The duct pull would require a crew of four to six. The length of time estimated for completing the bore is 3 weeks.