
City of Hayward Application for a Development Permit

Eastshore Energy Center

Submitted by:
Eastshore Energy, LLC

November 1, 2006



CH2MHILL

155 Grand Avenue, Suite 1000
Oakland, California 94612

ATTACHMENT B

CITY OF HAYWARD
DEVELOPMENT PERMIT APPLICATION

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Section 1.0 Introduction

Eastshore Energy has had several meetings during the course of 2006 with the City Manager of Hayward to discuss aspects of the proposed power project at 25101 Clawiter Road. This document is being submitted as a request from the City Manager of the City of Hayward, California at a meeting held on July 12th, 2006. The document is being submitted to provide specific information responses to the requirements of the City of Hayward Development Permit Application.

The information is organized consistent with the order of the Development Application Instructions. As the City is aware, the Eastshore Energy Center is subject to the jurisdiction of the California Energy Commission (CEC). The CEC review process incorporates an evaluation of all applicable laws, ordinances, regulations and standards (LORS), including City of Hayward requirements. An Application for Certification (AFC) was submitted to the CEC on September 22, 2006. If a certification license is granted by the CEC, all other State and local requirements will be incorporated in the license as conditions of certification.

This document is intended to provide an overview of the Eastshore LLC's expected compliance with City of Hayward Development Application requirements by including narrative discussions or figures from the AFC to address the application requirements. All referenced figures from the Eastshore Energy AFC have been attached to this document. As part of this submittal, Eastshore Energy, LLC has also attached a copy of the Eastshore Energy Center AFC, Volumes 1 and 2. The AFC and associated appendices provide additional project information not included in this submittal. As part of the CEC licensing process, engineering design has been performed for a permit level of detail only, and it is expected that additional project details will be performed during final design. As additional details are developed, Eastshore Energy, LLC will supply the appropriate information to the City. It is expected that the final engineering design drawings and plans will be submitted for review to the Chief Building Official following issuance of the CEC license.

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Section 2.1 Site Plan

1. The parcel(s), including all property lines, adjacent streets to centerline, and/or land uses within 20 feet of the property.

Refer to Figure 1.2-1 for the project location and adjacent city streets.

Refer to Figure 1.2-3 for the general site arrangement showing the parcel and property lines.

Refer to Figures 8.4-1 and 8.4-2 for land use designations and zoning designations within 1-mile from the project site.

2. Location of proposed structure(s) and existing structures to remain. Show distance between buildings and from buildings to property lines (including setbacks for second story if different from ground floor.)

Refer to Figures 1.2-2A and 1.2-2B for existing site conditions and an artists rendering of Eastshore Energy Center. These figures show the project area and surrounding uses.

Refer to Figures 1.2-3, 1.2-4A, and 1.2-4B for the site general arrangement and site elevations.

3. Location of proposed and to be retained wall(s) and fences within the site.

Refer to Figure 1.2-3 for the general site arrangement.

4. Existing and proposed easements, and above- and below-ground utilities (such as fire hydrants, power poles, electrical boxes, etc.) and tanks.

Refer to Figure 1.2-3 for the general site arrangement.

5. Parking and Traffic Circulation:

- a. Existing and proposed streets on the frontage of and within the development. Include any sidewalks, curbs, curb cuts, striping and medians. Show existing off-site parking restrictions, existing and proposed driveways, bus stops, loading zones, and parking spaces on frontage streets. Show traffic circulation arrows and traffic control signs. Show radii of all curb returns.

Refer to Figure 1.2-3 for the general site arrangement showing the internal traffic control, circulation, and parking areas. Additional details regarding internal site circulation and parking will be refined during the final design phase of the project.

Refer to Figure 8.10-2 for local transportation facilities.

Refer to Figure 8.10-3 and 8.10-4 for existing morning and afternoon peak-hour turning movements.

No project improvements are planned for Clawiter Road and there will be no changes to the existing site access from Clawiter Road.

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- b. Dimensioned parking layout – angle of parking, dimensions of stalls, internal driveways and flares, and approaches from streets, aisles, designation of standard and compact car parking stalls, loading spaces, and walkways. (See attachments E and F.)

Refer to Figure 1.2-3 for the general site arrangement showing the parking areas. Additional details regarding internal site parking will be refined during the final design phase of the project.

- c. Handicapped parking and access to building(s), if required.

Refer to Figure 1.2-3 for the general site arrangement showing the parking areas. The site arrangement does not identify ADA parking spaces. However, if required, the parking area could be revised to accommodate this requirement.

- d. Identify all surface materials.

Site surface materials will be both paving and gravel for the plant site and some areas of limited gravel on the offsite construction laydown area.

6. Location and dimensions of trash/recycle enclosure(s), including identification of materials and/or equipment stored, if any.

Refer to Figure 1.2-3 for the general site arrangement. Additional details regarding trash/recycle enclosure(s) will be refined during the final design phase of the project.

Several hazardous materials, including one regulated substance (aqueous ammonia), will be stored in amounts above the threshold quantity at the generating site during operation. Non regulated hazardous materials include biocide, citric acid, cleaning chemicals/detergents, corrosion inhibitor, diesel no.2, hydraulic oil, lube oil, mineral insulating oil, and sulfuric acid.

Many of the hazardous materials that will be stored onsite are corrosive and are a threat to humans (particularly workers onsite) if inhaled, ingested, or contacted with the skin.

Eastshore will have 19 percent aqueous ammonia solution in two stationary above ground storage tanks. The capacity of each tank will be approximately 10,000 gallons.

The ammonia unloading area will be a bermed area approximately 26 feet by 10 feet by 6 inches.

7. Location and dimensions of group and private usable open space (residential only).

Not applicable.

8. Location and design of signs.

Additional details regarding signs at the entrance of the site along Clawiter Road as well as internal site signs will be refined during the final design phase of the project.

9. Location of existing trees and other natural site features, such as rock outcrops.

Refer to Figures 8.2-1 for regional biological resources, including regional parks, wildlife refuges, and creeks. Refer to Figures 8.4-1 and 8.4-2 for land use designations and

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zoning designations within 1-mile from the project site. Refer to Figure 8.9-1 for surrounding soil designations.

10. Location of landscape areas.

Refer to Figures 8.11-2a through 8.11-2g for landscape character photos surrounding the project site.

11. A "Planning Data Summary" that includes the following information:

a. Total lot area and percent of lot covered by structures.

The project will be located on a 6.22-acre industrial parcel, of which 1.59 acres will be covered by structures.

b. Type of construction and occupancy use of proposed building (from the Uniform Building Code).

Occupancy will include the following:

- 14 nominal 8.4-MW (gross) Wartsila 20V34SG natural gas-fired, spark-ignited reciprocating engine-generator sets
- 14 state-of-the-art air pollution control systems representing best available control technology (BACT), one system per engine, consisting of a selective catalytic reduction (SCR) unit for oxides of nitrogen (NO_x) control and an oxidation catalyst unit for carbon monoxide (CO) and precursor organic compounds (POC) control
- 14 approximately 70-foot tall stacks, each with a separate continuous emissions monitoring system (CEMS)
- An acoustically engineered main building enclosing the 14 engines, workshop and control room
- Closed-loop cooling system consisting of multiple fan-cooled radiator assemblies outside the main engine building
- Two 10,000-gallon aqueous (19 percent by weight) ammonia storage tanks and handling system serving the SCR units
- One approximately 35,000-gallon raw water storage tank
- One nominal 225-kW diesel-fired emergency black start generator
- Miscellaneous ancillary equipment
- Onsite water and wastewater service interconnections
- Onsite 115-kV switchyard, including switchgear and step-up voltage transformers
- Approximately 1.1 miles of 115-kV, single-circuit transmission line connecting to PG&E's Eastshore Substation

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- Approximately 200-foot offsite natural gas line connection to PG&E Line 153
- Chain-link security fencing to enclose the facility, with a secured entrance on Clawiter Road
- A 4.65-acre temporary construction laydown and parking area immediately across Clawiter Road from the Eastshore site

c. Total gross floor area of each structure.

Building Gross Floor Area	Width, ft	Length, ft	SF
Control Room and Offices	88.5	35	3,098
Maintenance Store Room	69.33	34	2,357
Employee Changing Room	16.5	20.5	338
Compressor Room	53.5	22	1,177
Switchgear Room	88.6	34.8	3,083
Engine Hall A	160.9	68.9	11,086
Engine Hall B	164	68.9	11,300
Switchyard Control Building	15	25	375
TOTAL			32,814

The “floor area” does not apply to most of the items above (i.e., Compressor Room, Switchgear Room, Engine Hall A, Engine Hall B, and Switchyard Control Building). Floor area only applies to the those portions of engine hall considered “habitable”, including the control room and associated office space on the second floor and the maintenance shop area on the first floor. The gross floor area is 5,793 square feet.

d. Minimum number of parking spaces required, and number and type proposed, both open and covered. (Contact a planner at 583-4200 for requirement.)

As discussed above, the total square footage for habitable space (i.e., Control Room, Office, Maintenance Store Room, and Employee Changing Room) is 5,793 square feet. Using this square footage, 12 parking spaces are required. Six stripped parking spots are currently shown on the general site arrangement (Figure 1.2-3) and are intended to cover shift workers. Additional parking can be accommodated between the radiators on the north side of the facility and this will be refined during the final design phase of the project.

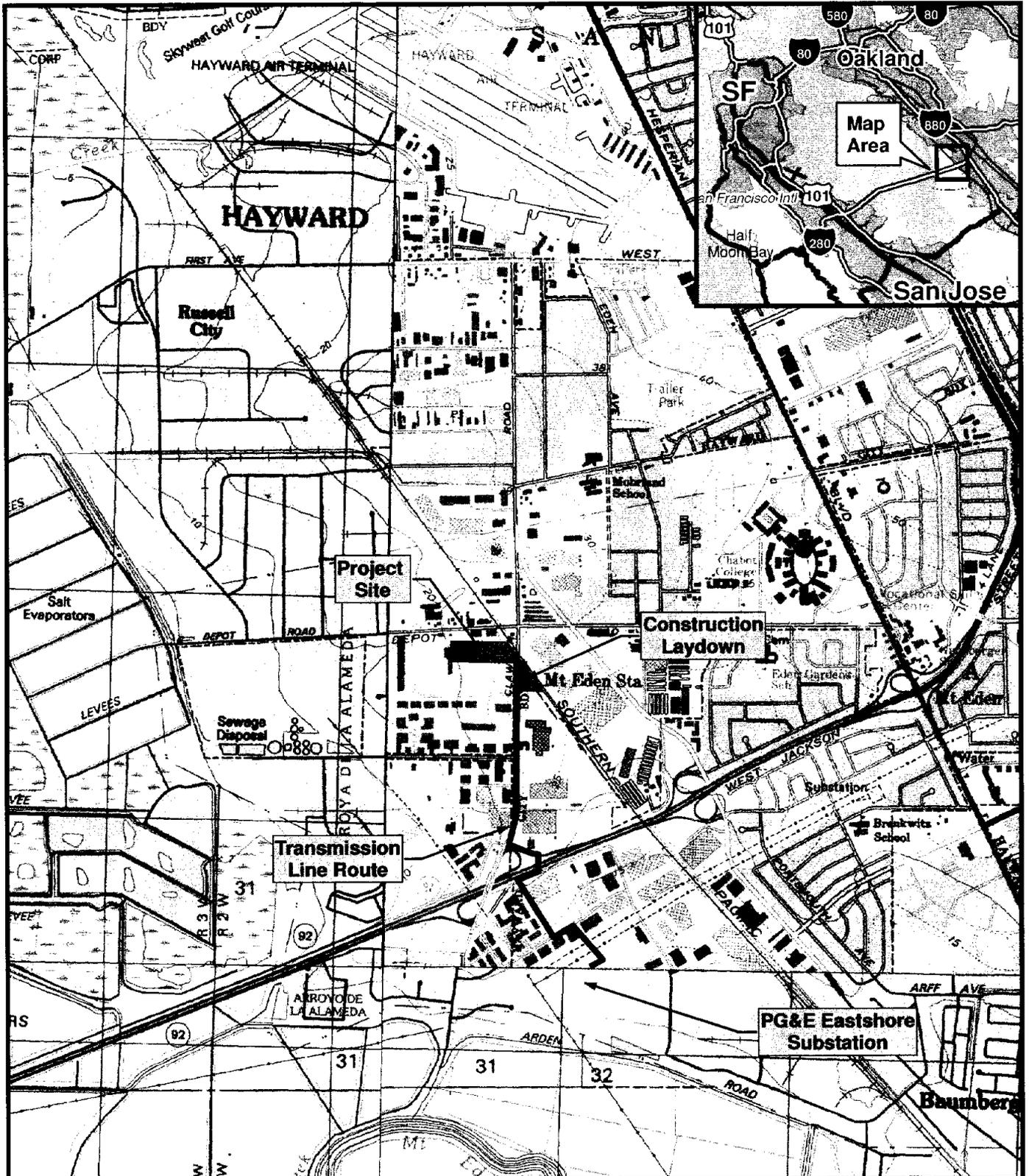
e. For residential development only:

- Density is the square feet of lot area per dwelling unit. Show maximum allowed by ordinance and what is proposed;

Not applicable.

- Total square feet of private and group usable open space required and proposed) for multi-family residential development.

Not applicable.



LEGEND

-  Site Location
-  Transmission Line Route

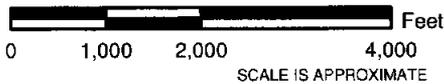


FIGURE 1.2-1
PROJECT LOCATION
EASTSHORE ENERGY CENTER
HAYWARD, CALIFORNIA

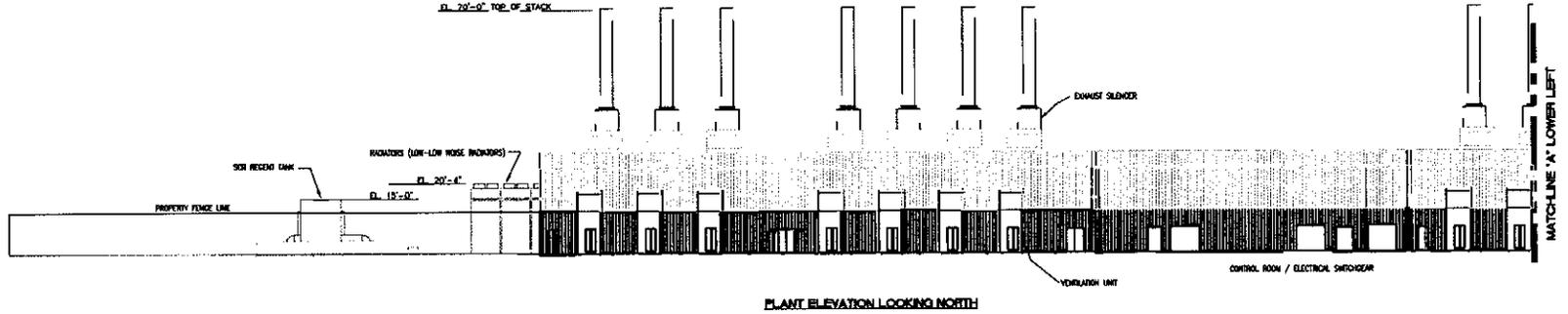


FIGURE 1.2-2A
EXISTING SITE CONDITIONS
EASTSHORE ENERGY CENTER
HAYWARD, CALIFORNIA

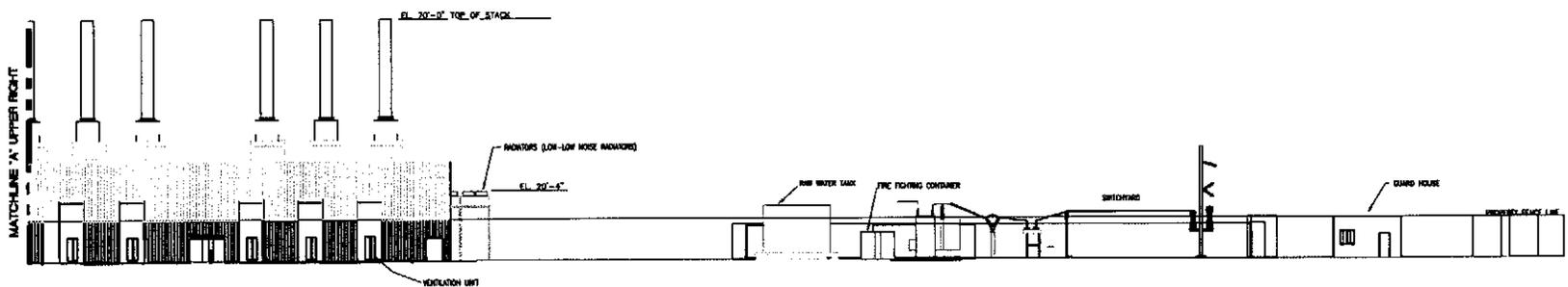


FIGURE 1.2-2B
ARTIST RENDERING OF EASTSHORE ENERGY CENTER
EASTSHORE ENERGY CENTER
HAYWARD, CALIFORNIA

1" = 12'-0"



PLANT ELEVATION LOOKING NORTH

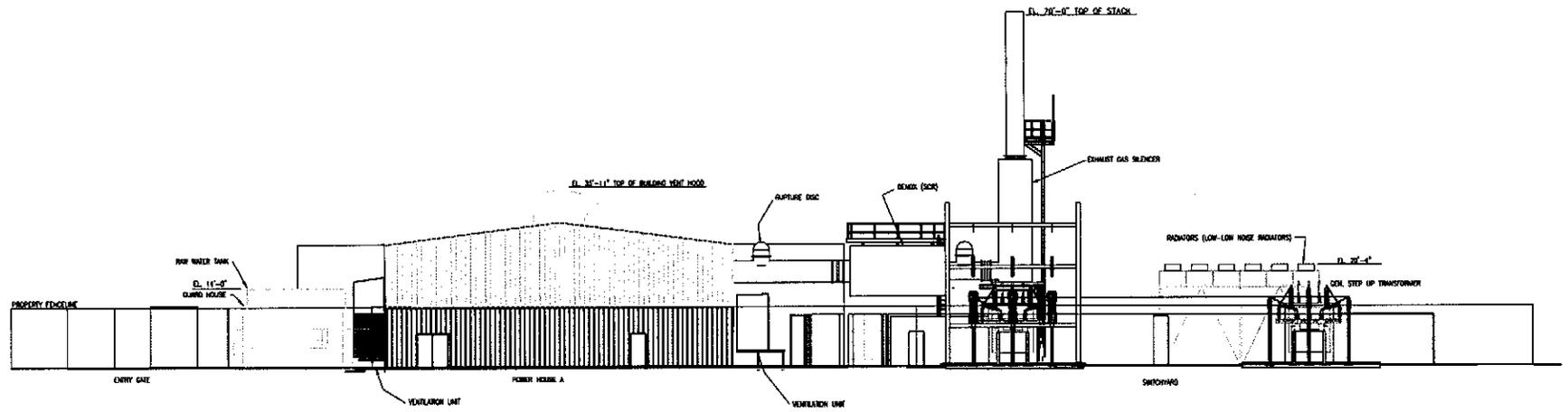


PLANT ELEVATION LOOKING NORTH - CONTINUE

FIGURE 1.2-4A
SITE ELEVATION DRAWING -
VIEW LOOKING NORTH
 EASTSHORE ENERGY CENTER
 HAYWARD, CALIFORNIA
 ALAMEDA COUNTY



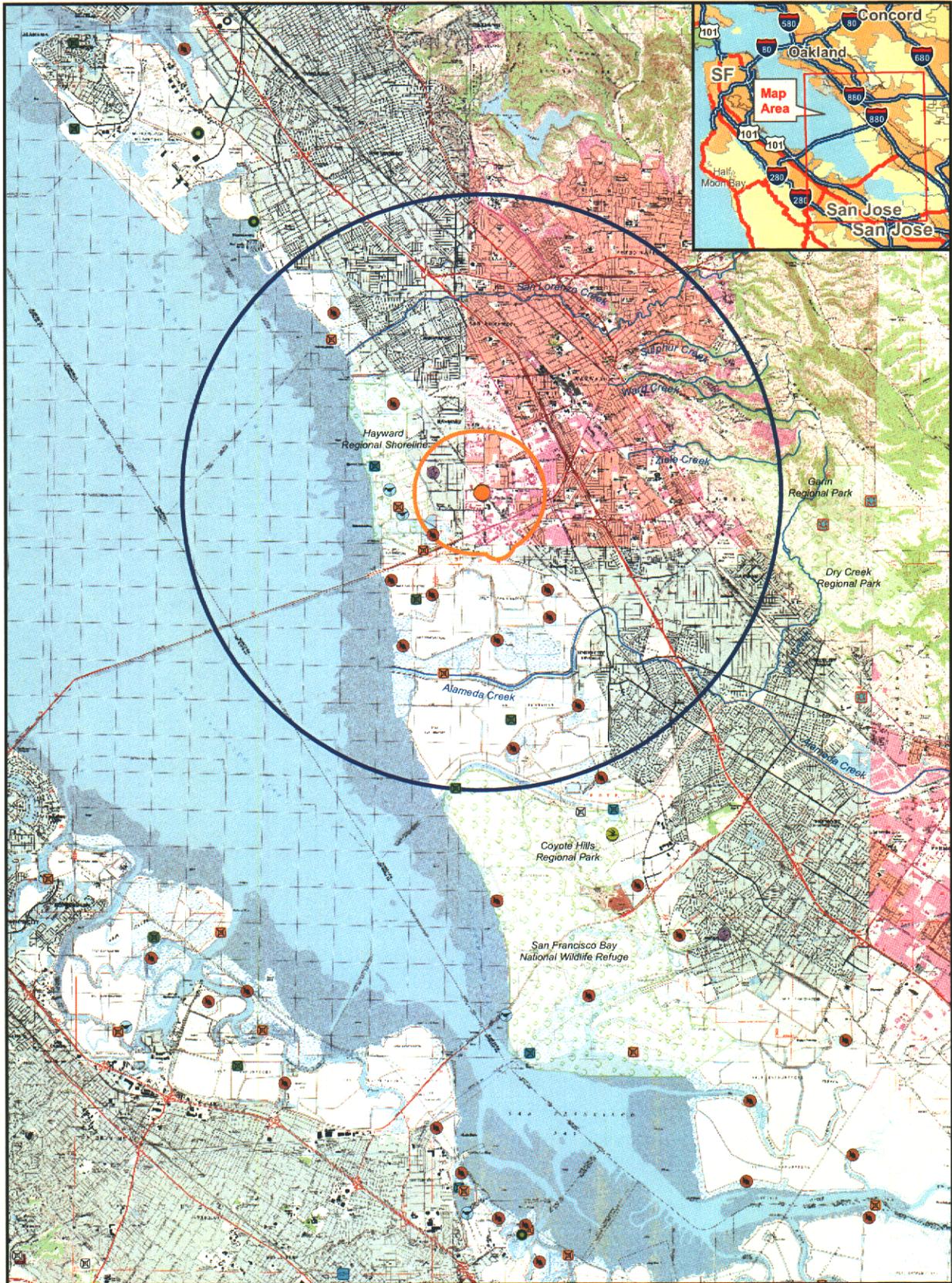
Scale: 1" = 10'



PLANT ELEVATION LOOKING WEST



FIGURE 1.2-4B
SITE ELEVATION DRAWING -
VIEW LOOKING WEST
EASTSHORE ENERGY CENTER
HAYWARD, CALIFORNIA
ALAMEDA COUNTY



LEGEND

- | | | | |
|---------------------------|-----------------------------|--------------------------|------------------|
| CNDBB An | California red-legged frog | Bank Swallow | Site Location |
| Bay checkerspot butterfly | California seablite | Western Snowy Plover | 1 Mile Buffer |
| California black rail | California tiger salamander | Santa Cruz tarplant | 5 Mile Buffer |
| California clapper rail | Contra Costa goldfields | Salt-Marsh Harvest Mouse | Salt Evaporators |
| California least tern | Myrtle's silverspot | | |



**FIGURE 8.2-1
REGIONAL BIOLOGICAL
RESOURCES**
EASTSHORE ENERGY CENTER
HAYWARD, CALIFORNIA

LEGEND

- | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
|  Site Location |  High Density Residential |  Mobile Home Park |
|  1 mile buffer from Project Site Includes 1/4 mile buffer from outlying Transmission Lines |  Industrial Corridor |  Parks and Recreation |
|  Transmission Line Route |  Limited Medium Density Residential |  Public and Quasi-Public |
|  Baylands |  Limited Open Space |  Retail and Office Commercial |
| |  Low Density Residential | |
| |  Medium Density Residential | |

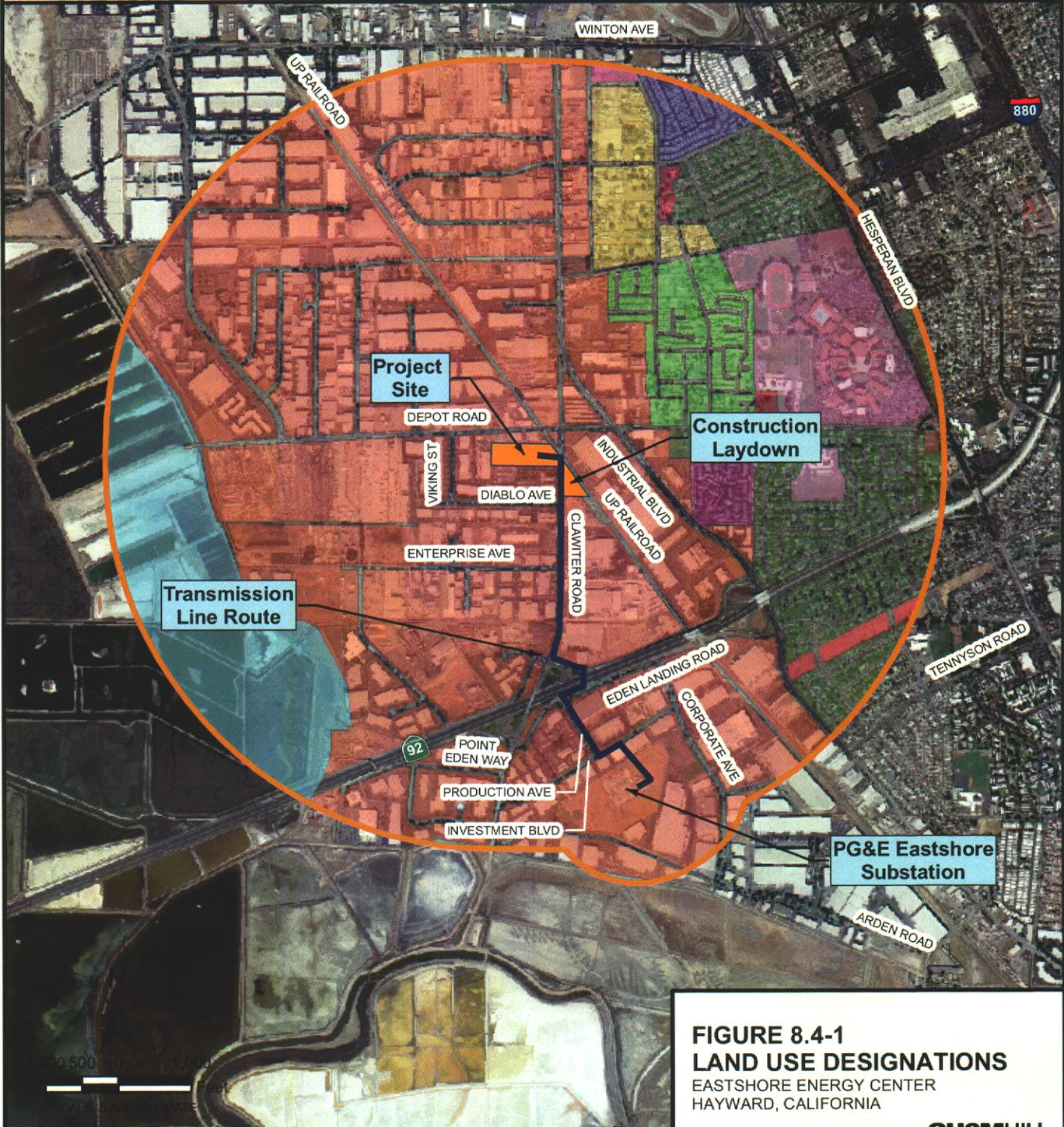


FIGURE 8.4-1
LAND USE DESIGNATIONS
 EASTSHORE ENERGY CENTER
 HAYWARD, CALIFORNIA

LEGEND

- | | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
|  Site Location |  Agriculture |  Medium Density Residential Min Lot Area - 2,500 sq ft |  Planned Development |
|  1 mile buffer from Project Site Includes 1/4 mile buffer from outlying Transmission Lines |  Central Business |  Medium Density Residential Min Lot Area - 3,500 sq ft |  Single Family Residence Min Lot Area - 4,000 sq ft |
|  Transmission Line Route |  Flood Plain |  Mobile Home Park |  Single Family Residence Min Lot Area - 5,000 sq ft |
|  Other |  High Density Residential Min Lot Area - 1250 sq ft |  Neighborhood Commercial | |
| |  Industrial | | |

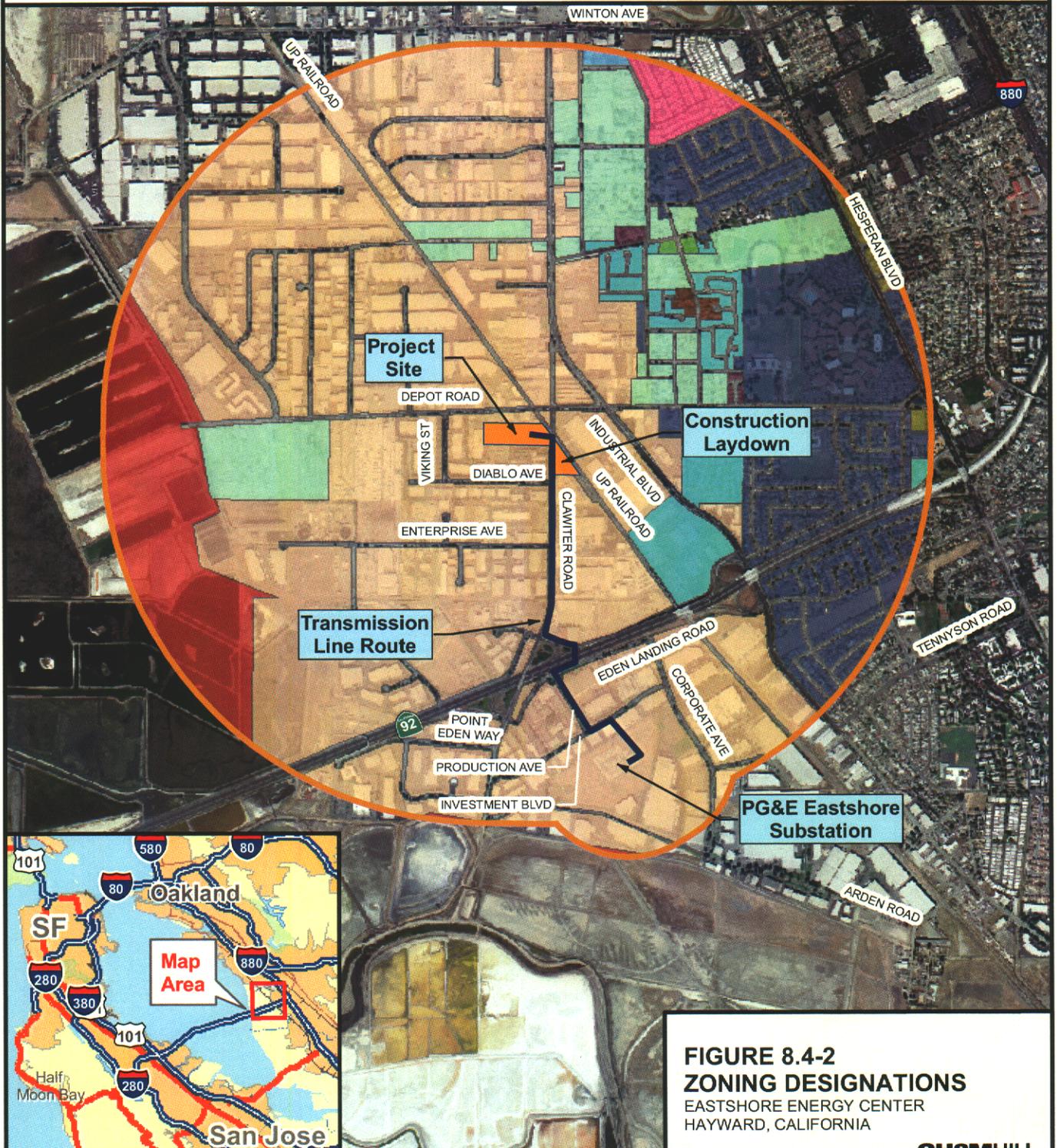
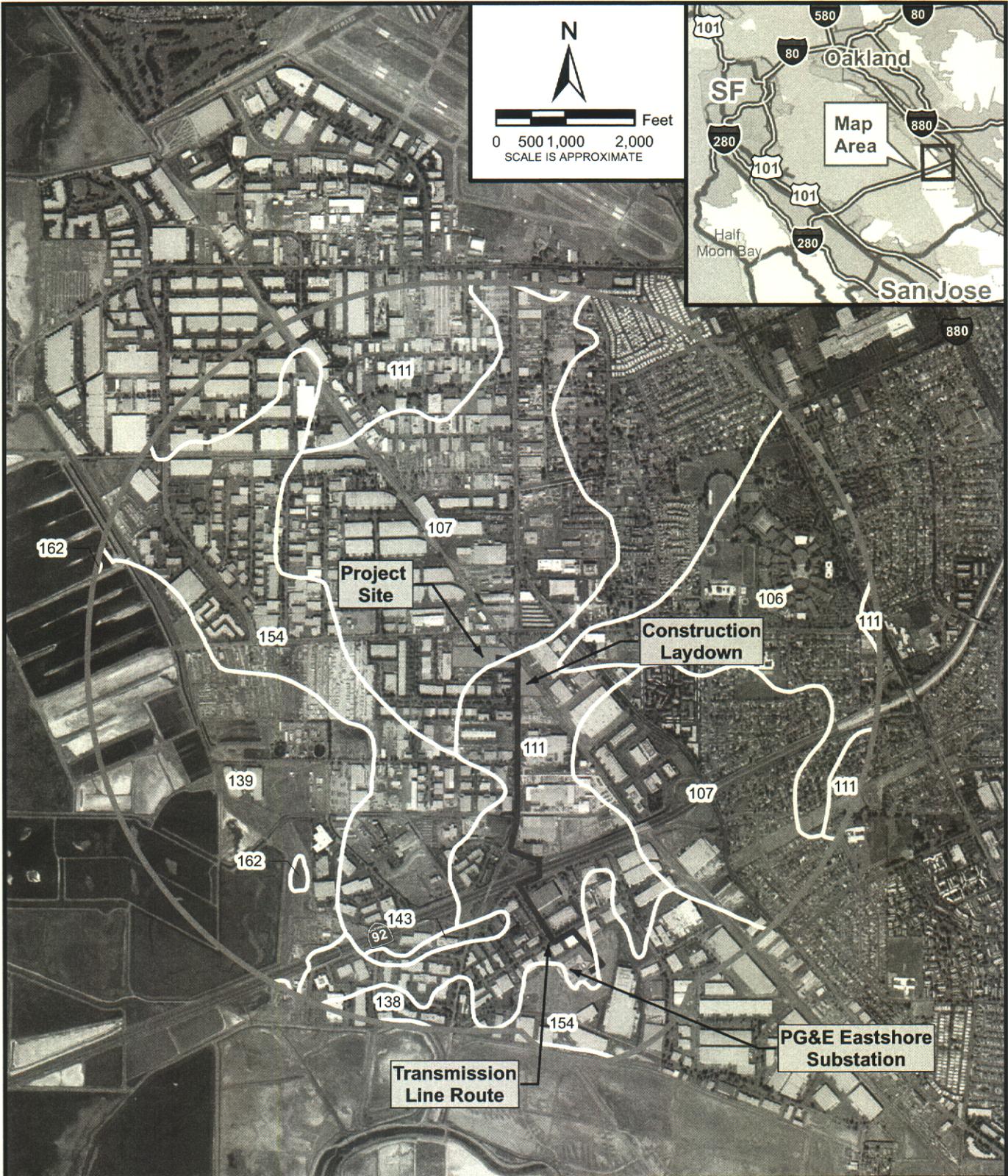


FIGURE 8.4-2
ZONING DESIGNATIONS
 EASTSHORE ENERGY CENTER
 HAYWARD, CALIFORNIA



LEGEND

-  Site Location
-  1 mile buffer from Project Site
Includes 1/4 mile buffer from
outlying Transmission Lines
-  Soil Map Unit Boundary
-  Transmission Line Route

Soil Map Unit Key

- 106 Botella loam, 0 to 2 percent slopes
- 107 Clear Lake clay, 0 to 2 percent slopes, drained
- 111 Danville silty clay loam, 0 to 2 percent slopes
- 138 Reyes clay, ponded
- 139 Reyes clay, drained
- 143 Sycamore silt loam, drained
- 154 Willows clay, drained
- 162 Water

**FIGURE 8.9-1
SOILS MAP**

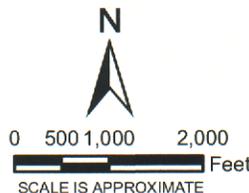
EASTSHORE ENERGY CENTER
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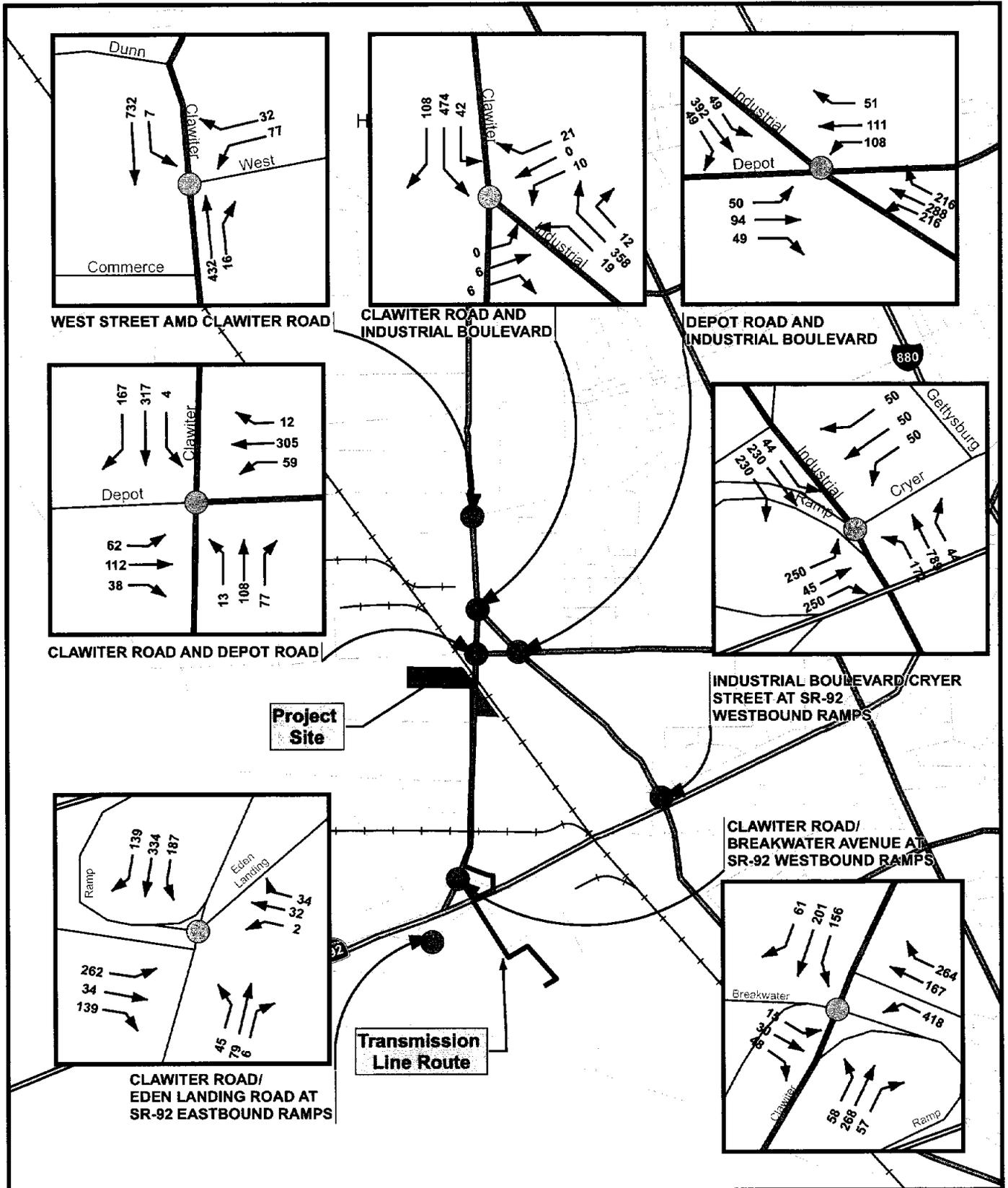


LEGEND

- Site Location
- Highway
- Transmission Line Route
- Major Road
- Railroad
- Airport

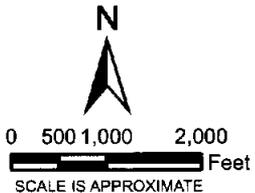


**FIGURE 8.10-2
LOCAL TRANSPORTATION
FACILITIES**
EASTSHORE ENERGY CENTER
HAYWARD, CALIFORNIA

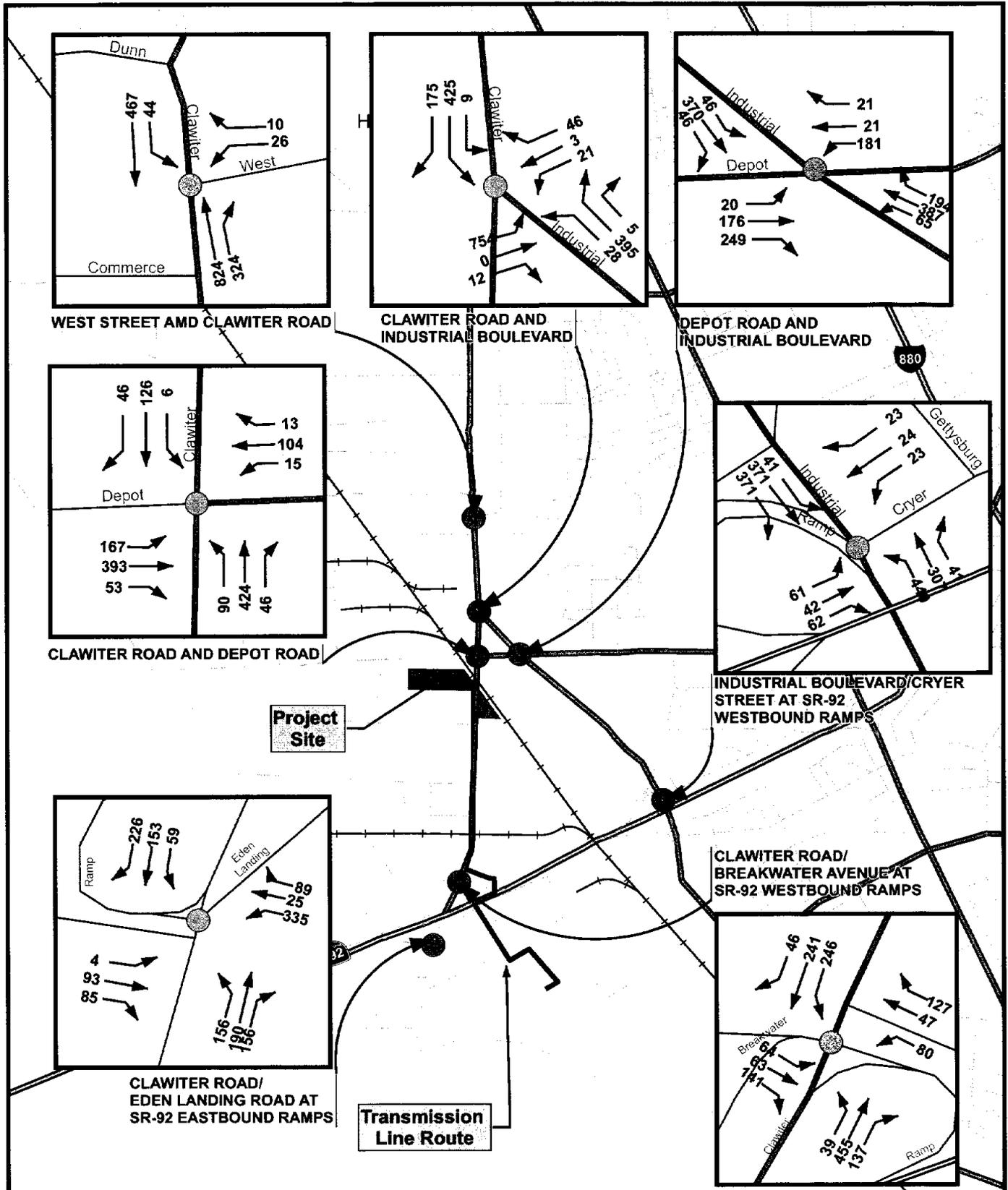


LEGEND

-  Site Location
-  Highway
-  Transmission Line Route
-  Major Road
-  Streets
-  Railroad



**FIGURE 8.10-3
EXISTING
MORNING PEAK-HOUR
TURNING MOVEMENT
EASTSHORE ENERGY CENTER
HAYWARD, CALIFORNIA**



LEGEND

- Site Location
- Highway
- Transmission Line Route
- Major Road
- Streets
- Railroad

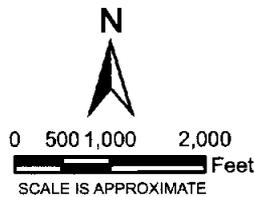


FIGURE 8.10-4
EXISTING
AFTERNOON PEAK-HOUR
TURNING MOVEMENT
 EASTSHORE ENERGY CENTER
 HAYWARD, CALIFORNIA



Photo 1: View looking southwest toward the power plant site from the mailbox at the nearest residence, 2765 Depot Road.



Photo 2: View looking northwest toward the existing building at the power plant site from the Fremont Bank Operations Center parking lot located adjacent to, and on the south side of, the power plant site.

FIGURE 8.11-2a
LANDSCAPE CHARACTER PHOTOS
EASTSHORE ENERGY CENTER
HAYWARD, CALIFORNIA

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Photo 3: View looking south toward the existing building at the power plant site (the building that would be demolished as part of the project), from Depot Road.



Photo 4: View looking west toward the existing building at the power plant site (the building that would be demolished as part of the project), from the east side of Clawiter Road.

FIGURE 8.11-2b
LANDSCAPE CHARACTER PHOTOS
EASTSHORE ENERGY CENTER
HAYWARD, CALIFORNIA

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Photo 5: View looking east along Depot Road from the south side of the road from a location east of Viking Street.



Photo 6: View looking northeast toward the construction laydown area from Diablo Industrial Park at the Clawiter Road/Diablo Avenue intersection.

FIGURE 8.11-2c
LANDSCAPE CHARACTER PHOTOS
EASTSHORE ENERGY CENTER
HAYWARD, CALIFORNIA

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Photo 7: View looking west toward the Fremont Bank Operations Center (the building adjacent to, and on the south side of, the project site), from the proposed project construction laydown area.



Photo 8: View looking north from along the west side of Clawiter Road from Alameda Electrical Distributors, Inc., 25823 Clawiter Road (south of Enterprise Avenue).

FIGURE 8.11-2d
LANDSCAPE CHARACTER PHOTOS
EASTSHORE ENERGY CENTER
HAYWARD, CALIFORNIA

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Photo 9: View looking south along Clawiter Road from the southwest corner of the Clawiter Road/Diablo Avenue intersection.



Photo 10: View looking north along Clawiter Road from Galaxy Tire and Wheel, Inc., 25858 Clawiter Road, located on the east side of the road.

FIGURE 8.11-2e
LANDSCAPE CHARACTER PHOTOS
EASTSHORE ENERGY CENTER
HAYWARD, CALIFORNIA

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Photo 11: View looking northwest along Production Avenue from its intersection with Investment Boulevard.



Photo 12: View looking southeast from between two buildings located on the south side of Investment Boulevard toward the existing PG&E Eastshore electrical substation that would be the southern terminus of the project.

FIGURE 8.11-2f
LANDSCAPE CHARACTER PHOTOS
EASTSHORE ENERGY CENTER
HAYWARD, CALIFORNIA

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Photo 13: View looking northeast from Arden Road toward the existing PG&E Eastshore electrical substation.

FIGURE 8.11-2g
LANDSCAPE CHARACTER PHOTOS
EASTSHORE ENERGY CENTER
HAYWARD, CALIFORNIA

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Section 2.2 Grading, Utility and Drainage Plan

1. On sloping sites, show existing and proposed grades (i.e., topographical and spot elevations), including grades of abutting properties. Contours may be used. Contours for steep slope are to be drawn at a minimum of 2-foot intervals.

Refer to Figure 916-C-101, Rev C for the Paving and Drainage Plan. Refer to Figure 916-C-102, Rev A for the Laydown Area - Drainage Plan.

Refer to Volume 2, Appendix 8.14 of the AFC for Storm Drain Calculations and the SWPPP Overview.

2. Drainage - show by arrows the direction of storm drainage runoff and the existing drainage facility that will receive the runoff, e.g., channel, creek, storm drain, or gutter.

Refer to Figure 916-C-101, Rev C for the Paving and Drainage Plan. Refer to Figure 916-C-102, Rev A for the Laydown Area - Drainage Plan.

Refer to Volume 2, Appendix 8.14 of the AFC for Storm Drain Calculations and the SWPPP Overview.

3. Utilities - show the location of transformers, water connections, sanitary sewer, storm lines, telephone/cable television equipment room and service entrance locations, and street and parking lot lighting.

Refer to Figure 916-C-101, Rev C for the Paving and Drainage Plan. Refer to Figure 916-C-102, Rev A for the Laydown Area - Drainage Plan.

Refer to Volume 2, Appendix 8.14 of the AFC for Storm Drain Calculations and the SWPPP Overview.

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Section 2.3 Floor Plans

Show all interior improvements and indicate use of each room (minimum scale 1' = 1/4").

Not applicable.

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Section 2.4 Elevations

Show all exterior building elevations (all sides), fences, walls, trash enclosures, and signs. Show lighting, external building materials and colors, and building height dimensions (minimum scale = 1' = 1/8" except for ground level commercial elevations which must be 1' = 1/4").

Refer to Figures 1.2-3, 1.2-4A, and 1.2-4B for the site general arrangement and site elevations.

Section 3.0 Environmental Impact Analysis

Sixteen areas of possible environmental impact from the proposed project were investigated during preparation of the Eastshore AFC (attached to this application). Detailed descriptions and analyses of these areas are presented in Sections 8.1 through 8.16 of the AFC and summarized below. With the implementation of reasonable and feasible mitigation measures, it is expected that there will be no significant environmental effects.

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Air Quality

The Eastshore site is located in an area designated as attainment for state and federal nitrogen dioxide (NO₂), CO, and sulfur dioxide (SO₂) ambient air quality standards. The area is currently designated as nonattainment for ozone and fine particulate matter (PM₁₀ and PM_{2.5}).

An assessment of the impact to air quality was performed using detailed air dispersion modeling. Potential air quality impacts from Eastshore will be mitigated by the state-of-the-art combustion and post-combustion emission control technologies summarized in Table 3-1 that will comply with the Bay Area Air Quality Management District BACT requirements.

TABLE 3-1
Summary of Proposed Air Pollution Control Technology

Pollutant	Proposed BACT	Emission Concentration ppm by volume at 15% O ₂
NO _x	Lean Burn Combustion, Selective Catalytic Reduction	5
POC	Lean Burn Combustion, Oxidation Catalyst	25
CO	Lean Burn Combustion, Oxidation Catalyst	13
SO ₂	PUC-regulated Natural Gas	<0.153 grains per 100 scf sulfur in natural gas
PM ₁₀ /PM _{2.5}	Lean Burn Combustion	2.426 lb/hr

Emission reduction credits will be obtained to offset increases in emissions of nonattainment pollutants or their precursors, including POC and NO₂. Any SO₂ and PM₁₀/PM_{2.5} emissions that could create a significant adverse impact will be mitigated consistent with CEC practice and CEQA requirements to reduce these impacts to less than significant levels. With the use of advanced lean-burn combustion control technology, post-combustion pollution control systems, and emission offsets, Eastshore will cause no significant adverse air quality impacts.

Refer to Section 8.1 of the Eastshore Energy Center AFC for additional air quality information.

Biological Resources

The Eastshore site is located in an industrial area of Alameda County. Preliminary surveys, habitat evaluations, and aerial photographs indicate that the site is not located in a sensitive area. Land uses within 1 mile of the Eastshore site are largely industrial, with some commercial and residential uses. The highly developed nature of the Eastshore site vicinity

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would not support most special-status species except a few plant species, other transient uses by migratory birds, and mammals.

Because the area around the Eastshore site is highly developed, no direct impacts to sensitive biological resources are expected to occur from construction. Impacts during operation are expected to be less than significant. Therefore, no significant impacts to biological resources are expected to occur.

Refer to Section 8.2 of the Eastshore Energy Center AFC for additional biological resources information.

Cultural Resources

A survey of the proposed Eastshore site and appurtenant linear facilities was conducted. The surveyed area is located in a heavily industrial and commercial area. The Eastshore site was previously covered by asphalt, buildings and parking areas. The linear natural gas supply and 115-kV transmission line routes are contained entirely in existing disturbed city streets, asphalted parking areas, or previously disturbed areas. No undisturbed ground or vegetation was visible within the Eastshore site or transmission line route during the survey.

Given the amount of previous ground disturbance in the area for buildings, utilities, and other infrastructure, it is likely that resources in the area would have been disturbed or destroyed. The archaeological sensitivity of the Eastshore site and linear facility routes is considered low.

The gas, sanitary sewer, and potable water, and transmission lines will be constructed entirely in previously disturbed areas, and entirely in the existing disturbed city streets. Further, both the CHRIS literature search and CH2M HILL's survey failed to identify significant archaeological sites. There are no historic architectural resources within 0.5 mile of the Eastshore site and 0.25 mile of the linear features. No impacts on architectural resources are expected to occur from construction and operation of Eastshore.

Although significant archaeological and historic archeological sites were not found during the field survey, subsurface construction could encounter buried archaeological remains. For this reason, Eastshore Energy, LLC, proposes to implement measures to mitigate potential adverse impacts that could occur if there were an unexpected discovery of buried culturally or historically significant resources.

Refer to Section 8.3 of the Eastshore Energy Center AFC for additional cultural resources information.

Land Use

The Eastshore site and all linear project components are located in the City and are subject to policies stipulated in Hayward General Plan. Specifically, the land use element of the General Plan defines planning areas and establishes the descriptions, limits, and directions for growth. All Eastshore components are located in areas designated as Industrial Corridor

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under the General Plan, and are zoned for industrial use. The Eastshore project will comply with the Zoning Ordinance land use designation and the General Plan policies for the City.

The Eastshore site is immediately west of the Union Pacific Railroad (UPRR) tracks at the western edge of Hayward Area Shoreline Planning Agency jurisdiction, and more than 1 mile from the lands considered to be San Francisco Bay shoreline. Eastshore is consistent with the relevant key Hayward Area Shoreline Planning Agency objective of promoting industrial infill development in designated industrial areas.

The proposed electric transmission line route from the switchyard to the PG&E Eastshore Substation is designated and zoned for industrial use. The areas covered by the natural gas, water, and sewer lines are all designated in the General Plan and Zoning Ordinance as industrial use.

Eastshore would be constructed in an existing industrial area and compatible with adjacent land uses. The transmission line would be installed in an industrial area in the City, and would be compatible with adjacent land uses. It is anticipated that Eastshore would not contribute to a significant impact to land use in the project vicinity. Therefore, Eastshore, as proposed, would not result in a significant cumulative land use impact.

Refer to Section 8.4 of the Eastshore Energy Center AFC for additional land use information.

Noise

The Eastshore project, as proposed, will produce noticeable noise during operations, but the noise levels will comply with City's requirements for industrial and residential uses. Noise will also be produced at the Eastshore site during construction.

The closest residential receptor to the Eastshore site is located at 2765 Depot Road, approximately 1,100 feet away. Adjacent parcels are industrial or commercial in nature.

Construction will occur during an 18-month period. General construction noise levels projected at 1,500 feet from the Eastshore site are estimated to be between 48 and 59 decibels, A-weighted (dBA). These results are conservative because the only attenuating mechanism considered was divergence of the sound waves in open air. Shielding effects of intervening structures were not included in the calculations. Construction noise might be audible at the nearest residences, but is not anticipated to exceed current exposure levels, and the noisiest construction activities will be confined to the daytime hours.

Ambient noise measurements determined that the noise level that is exceeded during 90 percent of the measurement period (L_{90}) nighttime noise level at the nearest residence (i.e., sensitive receptor) is 45 dBA. Noise modeling was used to determine the contribution to the nighttime ambient levels Eastshore would make during operation. Noise from operations is predicted not to exceed 50 dBA at the closest residential receptor. This is consistent with CEC's 5-dBA-over-background significance criterion and complies with the City criterion of 3 dBA above the existing L_{dn} . Ground and airborne vibration are not expected to be perceptible offsite.

No significant noise impacts are expected to occur from construction and operation of Eastshore Energy Center.

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Refer to Section 8.5 of the Eastshore Energy Center AFC for additional noise information.

Public Health

Potential impacts associated with emissions of chemical substances of potential concern into the air from the Eastshore project were addressed in a health risk assessment. Health risks potentially associated with the estimated concentrations of chemical substances in ambient air were characterized in terms of excess lifetime cancer risks (for substances listed by the California Office of Environmental Health and Hazard Assessment [OEHHA] as cancer causing) or comparison with reference exposure levels for non-cancer health effects (for substances listed by the California Office of Environmental Health and Hazard Assessment as non-cancer causing).

The maximum exposed individual resident excess lifetime cancer risk was estimated to be 8.5 in 1 million, less than the 10 in 1 million significance threshold above which public health impacts require additional emission controls.

No significant public health impacts are expected to occur from the construction and operation of Eastshore.

Refer to Section 8.6 of the Eastshore Energy Center AFC for additional public health information.

Worker Health and Safety

During construction, workers will be exposed to construction hazards, and during plant operation, operators will be exposed to operation safety hazards. To evaluate these hazards and control measures, a hazard analysis was performed. The analysis identifies the hazards anticipated during construction and operation, and indicates which safety programs should be developed and implemented to mitigate and appropriately manage those hazards. Programs are overall plans that set forth the method or methods that will be followed to achieve particular health and safety objectives. For example, the Fire Protection and Prevention Program will describe procedures to protect against and prevent fires. Each program or plan will contain training requirements that are translated into detailed training courses. Upon completion of construction and commencement of operations at the Eastshore project, the construction health and safety program will transition into an operations-oriented program that reflects safety hazards and necessary controls during operation. As a consequence of the development and implementation of these plans and programs, workplace accidents would be minimized in both severity and frequency so that there would not be a significant impact to worker health and safety from the construction and operation of Eastshore.

Refer to Section 8.7 of the Eastshore Energy Center AFC for additional worker health information.

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Socioeconomics

Total construction personnel requirements for the Eastshore project and the linear facilities will average 125 workers per month for 18 months, with a peak total work force of 235 during month 12. This translates into 2,246 person-months. The construction payroll is estimated at \$33.8 million. The estimated indirect and induced employment within Alameda County would be 17 and 90 jobs, respectively. Indirect and induced income impacts are estimated at \$733,300 and \$3,828,200, respectively. The total local sales tax expected to be generated during construction is \$166,250 (i.e., 8.75 percent of local sales). During construction, there would be no significant adverse impacts to population, housing, schools, or public services and utilities.

The Eastshore project will be operated by 13 full-time employees. Estimated indirect and induced employment in Alameda County would be 4 and 7 permanent jobs, respectively. The Eastshore project will bring \$2,366,100 in operational payroll to the region. During operations, additional sales tax revenues of approximately \$116,480 will be obtained by the City and Alameda County. During operation, there would be no significant adverse impacts to population, housing, schools, or public services and utilities. Therefore, the Eastshore project would benefit the local economy.

Potential environmental justice impacts were also analyzed in accordance with Executive Order (EO) 12898 (Appendix 8.8A). As reported in the series of environmental analyses prepared for Eastshore, and further confirmed through discussions with the environmental professionals who prepared those sections, no significant adverse impacts are expected after proposed mitigation measures are implemented. Consequently, none of the impacts of the Eastshore project can be described as high and adverse in the context of EO 12898. Because no high and adverse impacts are expected to result from the construction and operation of the Eastshore project, no high and adverse human health or environmental effects of the Eastshore project are expected to fall disproportionately on minority or low-income populations. The Eastshore project can, therefore, be considered consistent with the policy established in EO 12898.

Refer to Section 8.8 of the Eastshore Energy Center AFC for additional socioeconomic information.

Agriculture and Soils

Based on review of aerial photographs and documentation from a nearby project (Calpine/Bechtel, 2001), there are no commercial agricultural land uses in the area of the proposed Eastshore site (includes a 1-mile buffer of all facilities). There are no important farmlands (as defined for the Farmland Mapping and Monitoring Program) mapped in the same area (CDC, 2004). The proposed gas and electrical corridors will follow existing roadway or railroad ROW through urban areas. The potable water supply and sanitary sewer pipeline connection already exist on the Eastshore site.

The soils found in the Eastshore site, laydown area, and along the linear features are nearly level (or very slightly sloped). Construction activities could affect soil resources by increasing soil erosion and soil compaction. However, best management practices will be

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used to minimize erosion at the site during construction. Therefore, Eastshore will not cause adverse impacts to agricultural production or soil loss.

Refer to Section 8.9 the Eastshore Energy Center AFC for additional soils and agriculture information.

Traffic and Transportation

During the peak construction period, approximately 212 daily construction worker round trips are expected. To analyze the worst-case scenario, a focused assessment of the impacts on the surrounding roadways – an Intersection Capacity Utilization analysis – was conducted for the seven intersections that would be most directly affected by Eastshore construction traffic. In general, the addition of the forecasted peak project traffic (424 daily vehicles) is not anticipated to result in a significant change to roadway operations throughout the day. Therefore, the construction of Eastshore is not expected to have significant impacts on roadway intersections.

Three segments are predicted to have unacceptable LOS E and LOS F operations during the peak hour: I-880 between Winton Avenue and SR-92, I-880 between SR-92 and Tennyson Road, and Clawiter Road between Industrial Boulevard and SR-92 westbound ramps. Because these roadways are over capacity, anything that adds a significant number of trips may be considered an impact. The assumed worst-case overlap of construction of the nearby Russell City Energy Center would further exacerbate this impact.

To mitigate the potential impacts, a traffic control plan will be prepared in accordance with the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook. After construction is complete, no permanent alterations to the area roadways are proposed. Implementation of a traffic control plan for the affected area for the short duration of construction in that area is adequate to minimize the traffic impacts to an acceptable level. Therefore, with the implementation of a traffic control plan, the construction of Eastshore is not expected to have significant impacts on roadway intersections.

The addition of traffic associated with Eastshore operations during the peak commuter morning and afternoon hours will not result in an Intersection Capacity Utilization value significantly higher than without Eastshore. Therefore, the operation of Eastshore will not have significant impacts on roadway intersections.

Refer to Section 8.10 the Eastshore Energy Center AFC for additional traffic and transportation information.

Visual Resources

The landscape surrounding the Eastshore site is composed almost exclusively of industrial and commercial facilities. The site is flat and open, and contains no features considered to be scenic resources. Several industrial and commercial facilities throughout the area are tall rectangular buildings that generally block views toward the Eastshore site. The Eastshore project features will include a power house (including control room) that will be approximately 417 feet long, 71 feet wide and 36 feet high. The engine stacks will be 70 feet

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tall and 4 feet in diameter. There will be two radiator banks on the northern portion of the Eastshore site. Each bank will be approximately 185 feet long, 33 feet wide, and 20 feet high to the top of the fan shrouds. The exteriors of all major equipment will be the shades of off-white, beige, tan, and gray used on the adjacent buildings. This color treatment will optimize Eastshore's visual integration with the surrounding environment.

There are no residences in close proximity to the Eastshore site. The nearest residence is approximately 1,100 feet away on Depot Road. The nearest residential neighborhood is approximately 0.6 mile away, east of Industrial Boulevard. A key observation point (KOP1) toward the site was selected in consultation with CEC Visual Resources staff and evaluated. A computer simulation determined that the Eastshore project would not be visible from this view and, therefore, would have no impact on the overall quality of the view. In general, to the extent to which they would be visible, the elements of Eastshore would be consistent with the existing components of the view. They would have very little effect on the character of the views, and would not alter the view's existing low level of visual quality. The lighting associated with Eastshore would be limited, and would not pose a hazard or adversely affect day- or nighttime views toward the site. Eastshore is in general conformance with the LORS related to visual resources in the City plans and zoning ordinance provisions that pertain to this area. Therefore, the Eastshore project will not cause any significant impacts to visual resources.

Refer to Section 8.11 the Eastshore Energy Center AFC for additional visual information.

Hazardous Materials Handling

Hazardous materials to be used during construction and operation were evaluated for hazard characteristics. Hazardous materials to be used during construction of the Eastshore project (and its associated linear facilities) will include gasoline, diesel fuel, motor oil, hydraulic fluid, solvents, cleaners, sealants, welding flux, various lubricants, paint, and paint thinner. The quantities of hazardous materials that will be onsite during construction will be small, relative to the quantities used during operation. Several hazardous materials, including one regulated substance, will be stored at Eastshore during operation. Only aqueous ammonia will be stored in amounts above the threshold quantity during the operations phase, and a risk management plan will be prepared that is consistent with the California's Accidental Release Prevention Program requirements. Sufficient monitoring will be performed during construction and operation to ensure that the proposed mitigation measures are satisfied and effective in mitigating potential environmental effects.

An offsite consequence analysis will be performed to assess the impact to humans if a spill or rupture of the aqueous ammonia storage tank were to occur. The results of this analysis will be compiled and submitted during discovery. Based on prior experience with similar facilities, the general public is not expected to be exposed to ammonia concentrations above levels considered to represent a significant impact during a worst-case release scenario. Eastshore will confirm that the facility will not pose a significant risk to the public during discovery.

Refer to Section 8.12 of the Eastshore Energy Center AFC for additional hazardous materials and handling information.

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Waste Management

During construction, the primary waste generated will be solid nonhazardous waste. However, some nonhazardous liquid waste and hazardous waste (solid and liquid) will also be generated. Most of the hazardous wastes will be generated at the Eastshore site, but a limited quantity of hazardous waste may be generated during construction of the Eastshore project linears. The types of waste and their estimated quantities are described in the waste management section of the AFC. The primary waste generated during operation will be nonhazardous wastewater. Other nonhazardous solid waste will also be generated, as well as varying quantities of liquid and solid hazardous waste. Handling and mitigation of these wastes is also described in the waste management section of the AFC.

The handling and management of waste generated by the Eastshore project will follow the hierarchical approach of source reduction, recycling, treatment, and disposal. The first priority will be to reduce the quantity of waste generated through pollution prevention methods (e.g., high-efficiency cleaning methods). The next level of waste management will involve the reuse or recycling of wastes (e.g., used oil recycling). For wastes that cannot be recycled, treatment will be used, if possible, to make the waste nonhazardous (e.g., neutralization). Residual wastes that cannot be reused, recycled, or treated will be disposed of offsite.

Refer to Section 8.13 of the Eastshore Energy Center AFC for additional waste management information.

Water Resources

The Eastshore project will use an extremely small quantity of water, approximately 1.6 acre-feet of potable water per year. This water consumption is comparable to only 2 - 3 single family households. Potable water will be supplied to the site by the City. Potable water uses at Eastshore will include maintenance (fire fighting systems and engine closed-loop cooling); service (turbo washing, power house and plant uses, and personnel uses); and miscellaneous uses, such as equipment washing and irrigation. Wastewater, also in very small quantities, will be collected and discharged to the City sanitary sewer.

Proposed mitigation measures are prescribed by stormwater and erosion control management programs mandated under the National Pollutant Discharge Elimination System (NPDES). These programs have been in place for a number of years and the prescribed measures have proven effective. Under the General NPDES Permit for Construction, for example, various specific measures are prescribed, and a program of monitoring is required. Compliance with these programs will ensure that all residual impacts associated with Eastshore are mitigated to a level of less than significant.

Refer to Section 8.14 of the Eastshore Energy Center AFC for additional water resources information.

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Geologic Hazards and Resources

Five principal faults lie within a 25-mile radius of the Eastshore site. Ground shaking presents the most significant geologic hazard to Eastshore and its linear facilities. Liquefaction might also affect linear facilities as a result of ground shaking. The Eastshore site and the linear facilities will need to be designed and constructed to withstand strong earthquake shaking as specified in the 2001 California Building Code for Seismic Zone 4 in accordance with City requirements. Proposed mitigation measures will be implemented in the design of the facilities to reduce risk associated with these hazards.

Refer to Section 8.15 of the Eastshore Energy Center AFC for additional geological resources information.

Paleontological Resources

Paleontological resources (fossils) are the remains or traces of prehistoric animals and plants. The literature review, archival searches, and field survey conducted for this inventory documented only three previously recorded fossil sites within 3 to 5 miles of the Eastshore site. The occurrence of fossils near the Eastshore site in similar geologic environments indicates a potential for additional similar, scientifically important fossil remains to be encountered by earth-moving activities during construction. The Eastshore site lies on alluvial deposits that are at least in part equivalent to the Temescal Formation. The potential of encountering sediments of high paleontological sensitivity is likely when these activities extend to a depth sufficient to encounter undisturbed sediment of Rancholabrean age. Although excavation at the site will generally be shallow (less than 6 feet below ground surface), the possibility exists that disturbance would uncover resources of high paleontological sensitivity.

Mitigation measures have been proposed to reduce or mitigate potential project-related adverse impacts to significant paleontological resources. These mitigation measures are described in the paleontological resources section of the AFC. No impact to paleontological resources would occur as a consequence of operation, so no mitigation is proposed during operation of Eastshore.

Refer to Section 8.16 of the Eastshore Energy Center AFC for additional paleontological resources information.

Section 4.0 Additional Materials/Information

Consistent with the direction provided for the inclusion of additional materials/information in the Application, a color rendering has been included to address these requirements. The simulated color rendering of the Eastshore Energy Center is provided as Figure 1.2-2B included in Section 2.0 of this submittal.